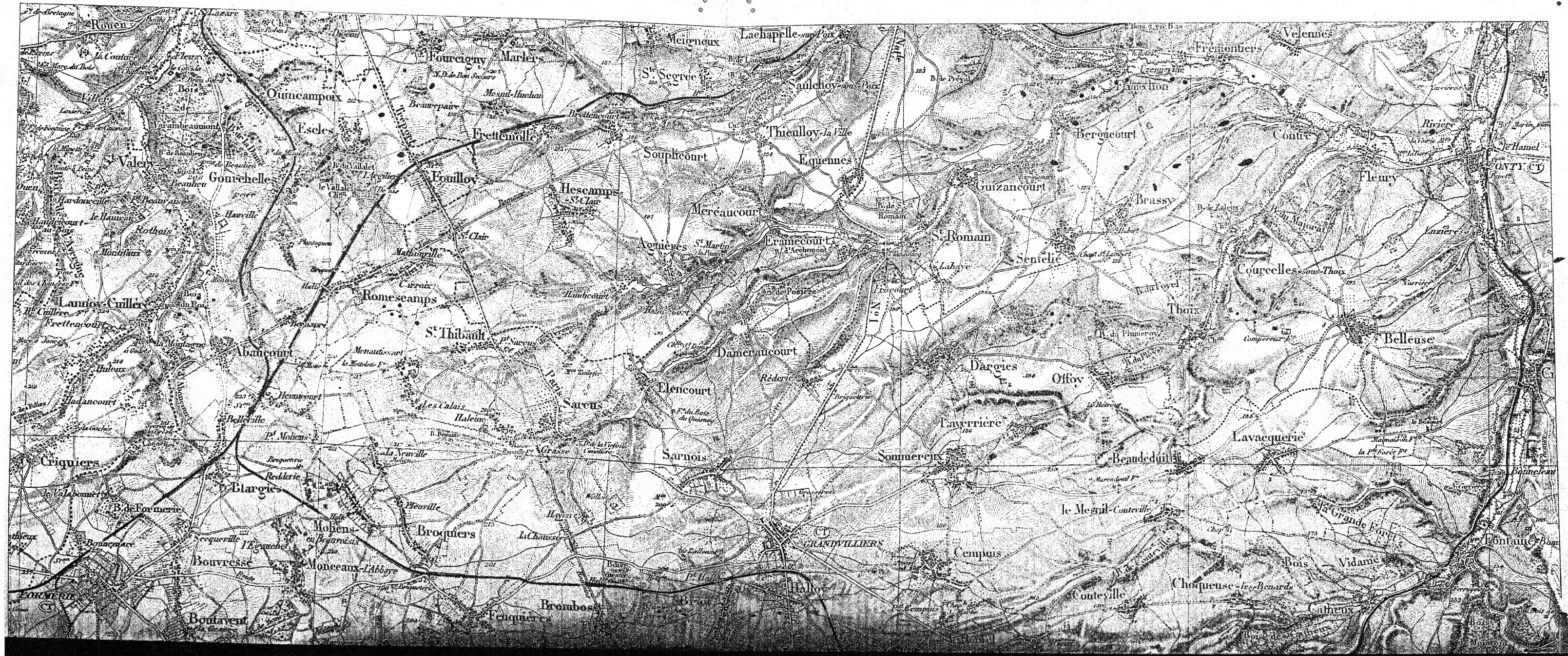
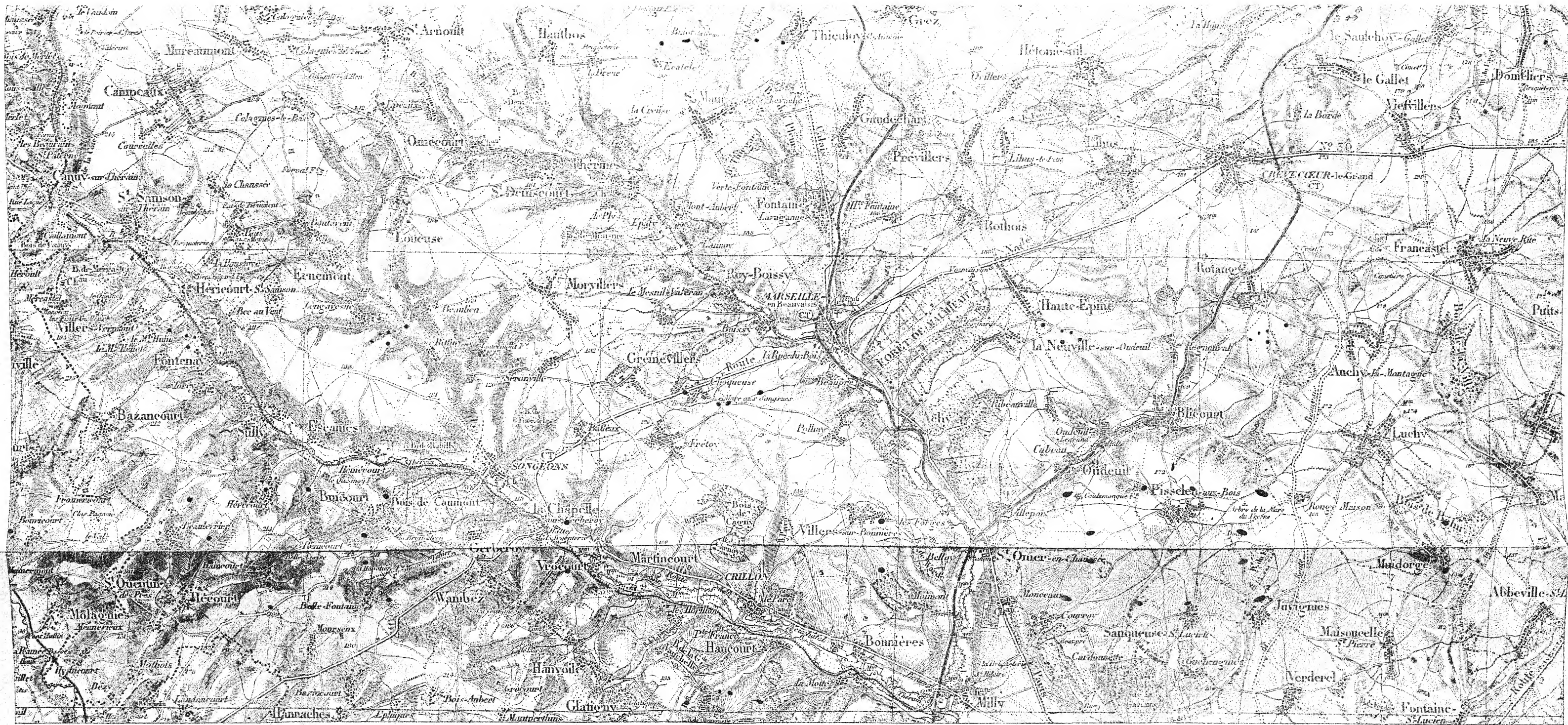


LES MANŒUVRES DE PICARDIE EN 1910.

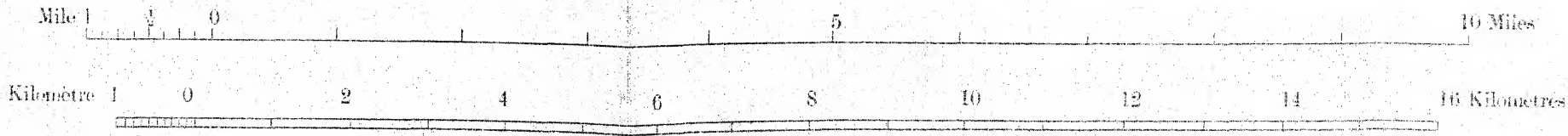




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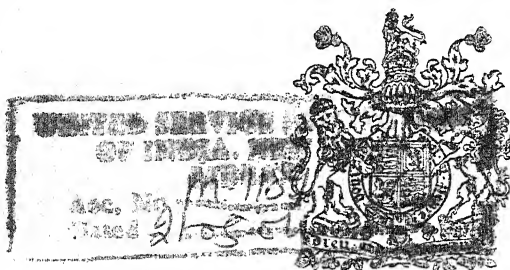
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The Artillery at the Picardy Manœuvres in 1910.

BY
GENERAL PERCIN.

TRANSLATED BY THE GENERAL STAFF.

With 1 Map and 21 Diagrams in Colours.



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ABBREVIATIONS.

The following abbreviations are used on the diagrams :—

A.G.	..	Advanced Guard
C.A.	..	Army Corps
E.D. ₃	..	Divisional Squadron, 3rd Division
B.C. ₃	..	Cavalry Brigade, 3rd Army Corps
A.D. ₄	..	Divisional Artillery, 4th Division
A.C.	..	Corps Artillery
B.I.	..	Infantry Battery
C.B.	..	Counter-Battery
II/3	..	Second Battalion, 3rd Regiment of Infantry
3/A.D.	..	3rd group, Divisional Artillery
4/A.C.	..	4th group, Corps Artillery
D.C.	..	Cavalry Division.

On the sketch maps, the lines of fire of infantry batteries are denoted by a dotted line, those of counter-batteries by a full line.

NOTE BY TRANSLATOR.

Some of the technical terms used in this book are difficult to render into English without explanation.

The term *liaison* is frequently employed, and is translated by "tactical connection." It implies that two bodies of troops or two arms are working together to execute a joint task: that their commanders are in communication, and that they consult together as to the measures to be adopted. General Percin, in his use of the term, further implies that the infantry commander is the predominant partner in this association, and that the commander of the artillery units, when these are "placed at the disposal" of the infantry commander, takes his orders from him.

The French distinguish between *liaison par le haut* and *liaison par le bas*. The former means communication (say) from the infantry brigadier through a higher authority down again to (say) the artillery brigade commander; the latter that the commanders, or possibly their subordinates, are in direct communication. *Liaison par la vue* means that two bodies of troops, though not in communication, can each see what the other is doing, and can work together.

An "infantry battery" is a battery detailed to fire at the infantry opposed to the troops which it is supporting. It is usually in an open or semi-concealed position.

A "counter-battery" is a battery detailed to fire upon and to "neutralize" a battery of the enemy's artillery. It is usually in a concealed position.

A *batterie à deux fins* is detailed to fire at infantry or artillery according to circumstances. It is usually in a semi-concealed position.

A *batterie d'accompagnement*, (translated "battery of accompaniment,") is detailed to go forward with the infantry in attack, or to remain with them in defence or retirement. It should accompany the infantry "rather with its fire than with its guns," but must not shrink from exposing itself to infantry fire at short range when necessary.

ALLOTMENT AND WITHDRAWAL OF ARTILLERY.

When an infantry commander is ordered to execute any special task, a sufficient force of divisional or corps artillery is handed over to him, and placed under his orders. This force is commanded by a senior artillery officer, who is then subordinate to the infantry commander. It is the duty of the General Officer Commanding the artillery of the Army Corps to withdraw any of these artillery units from the infantry officer's command as soon as their particular task is achieved. These groups of batteries then go to maintain the "floating reserve" of artillery, which the Army Corps commander should always keep at his disposal, and from which batteries are issued to other infantry commands as required. The same applies, on a smaller scale, to the division.

INTRODUCTION.

One of the questions most hotly discussed among artillerymen is whether it is better to deploy the greatest possible number of batteries at the outset, even if their tasks cannot yet be defined ; or whether it is not preferable to keep back some batteries, at first, as a reserve to meet subsequent possible requirements, since the withdrawal of a battery engaged with the enemy is always a difficult operation.

The Regulations of 8th September, 1910, which were approved before the manœuvres but issued afterwards, contain somewhat contradictory instructions on this point.

On the one hand, Chapter V, Section 9, first paragraph, lays stress on the advantages of priority of occupation, which enables the artillery to support the infantry from the outset. But the explanatory note states that this is not a reason for bringing the whole of the artillery into action as soon as the force reaches the neighbourhood of the enemy, as this might lead to its being deployed prematurely or even in a wrong direction.

On the other hand, para. 2 points out that in the concealed position the batteries preserve, to a certain extent, their liberty to withdraw and change to another position found to be better.

Finally, para. 3 states that by assembling the batteries at a short distance from their possible positions it will often be possible to realize the advantages of coming into action quickly, while avoiding the evils of a possibly premature deployment.

These contradictions leave the reader somewhat perplexed. It would accordingly have been interesting to note, at the 1910 army manœuvres, how many times priority of occupation presented the advantages mentioned in para. 1, and how many times, on the contrary, it was subject to the disadvantages mentioned in the explanatory note. It would also have been interesting to observe how, after expending the reserve recommended by para. 3, it was possible to reconstitute it by taking batteries whose task was achieved, as recommended by para. 2. Two important opportunities of studying this question occurred.

On the 16th September, the first day on which it was possible to study the employment of the 30 batteries, the whole of the artillery of the Southern force was expended by 3 p.m. Five groups,* deployed on the plateau of Morvillers, supported the offensive movement of the 10th brigade in the direction of Thérines. It was therefore impossible to provide for fresh requirements on this part of the battlefield without withdrawing some of the above-mentioned 15 batteries. If this necessity had arisen, the batteries to withdraw would have been selected from those not engaging any target, those whose task was less important or could be handed over to other batteries, and, by preference, those best concealed from the view of the enemy's artillery. At 4 p.m. the Director suspended hostilities. The manœuvres being supposed to be continuous, the batteries should have taken up the same positions at 6 a.m. next day. We should then have seen how

* A group consists of 3 batteries.—Tr.

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* A group consists of 3 batteries.—Tr.

the Artillery Commander would have acted in view of the fresh tasks to be executed, which batteries he would have withdrawn, what steps he would have taken to distribute the tasks afresh, and to re-organize his system of command. I was not a little surprised, on arriving on the ground next morning, to find that instead of five groups there were only two. The commander had withdrawn three groups, to which he had assigned other tasks. He had thus evaded the problem of withdrawing artillery, and had profited by all the advantages of priority of occupation without incurring the disadvantages. Therefore no instruction could be derived from this manœuvre.

I may add that not one umpire had reported to me this infraction of the principle of continuity of manœuvres. I should have known nothing about it but that, as it happened, the station of the Chief Umpire was, on that day, on the plateau of Morvillers, so that I witnessed this deployment of a large body of artillery myself. To the umpires, insufficiently directed by the instructions issued to them, this incident appeared of no importance.

On the 18th September, at 9.30 a.m., the Northern Force had still four artillery groups in hand, assembled at a short distance from their possible positions, as recommended by para. 3 quoted above. There is no doubt that if fresh tasks had presented themselves these four groups would have been able to undertake them with the greatest facility.

The Southern Force, on the contrary, had expended all its artillery. On the plateau of Morvillers the batteries had come into action so hurriedly that the groups were mixed together.

Were these batteries concealed from the view of the enemy's artillery, which is an essential condition of the advantage of priority of occupation claimed by para. 2 quoted above? I cannot say, as this information is not to be found in the umpires' reports. Were the batteries in a position to support their infantry from the outset, another advantage laid down in para. 1? This question must be answered in the negative, since the artillery had to cease firing to let the infantry pass through. Moreover, the mixing of the groups rendered the command difficult.

Therefore the advantage which would have been gained by the momentary superiority of the Southern artillery was very problematical. Supposing a real advantage to have been gained, to what extent would it have been reduced by the difficulty of withdrawing part of the artillery at a given moment? To know this, it would have been necessary to attempt the execution of this withdrawal. This attempt was not made, since the manœuvres ceased just at the moment when this question would have presented itself.

To sum up, the study of the employment of artillery was the original object which led to the institution of the Picardy manœuvres. From this point of view, the only one which I am at present considering, these manœuvres have failed to achieve the result expected of them. The information furnished by the umpires has been of very little use to me in the study which I wished to undertake, and the instructions for the service of umpires were silent on the greater part of the questions which it had been intended to solve.

The only really useful information which I was able to collect in the course of each manœuvre was that which I procured directly myself,

by sending the officers of my staff to the commanders of the more important bodies of troops. These three officers, Captains Franck, Jacquemot and Levanier, were well acquainted with my intentions, and brought me the accurate information which I required. In order to corroborate this information, I caused to be forwarded to me, on the day following each manœuvre, a copy of the orders given on the ground by the commanders of the principal units, the records of the dispositions of the group commanders, and the battery records of firing. I was thus able to reconstitute, down to the smallest details, the history of the six days of manœuvre, and to derive therefrom some useful indications as to the employment of artillery.

In presenting this history, and in the accompanying comments, I have abstained from any criticism of the tactical appreciations of the different commanders. I have confined myself to pointing out how, once the tactical decision of the commander had been arrived at, the artillery should have been employed. I only mention the commander's decision in order to define the point of view from which the action of the artillery must be considered.

In the concluding portion of the book I sum up the conclusions which appear to follow from this study. I show how necessary special manœuvres would have been, and how much we have learnt from the manœuvres of 1910, in spite of their defective organization ; and also, how much more yet remains for us to learn.

ORDER OF BATTLE.

I.—Red Force.

Commander	..	..	G.O.C. 2nd Army Corps.
3rd Division	..	..	5th Brigade (120th and 128th) 6th Brigade (51st and 72nd) Divisional Artillery (3 groups*)
4th Division	..	..	7th Brigade (54th and 67th) 8th Brigade (45th and 87th) Divisional Artillery (3 groups)
Corps Artillery	..	..	4 groups.
2nd Cavalry Brigade.			
Chasseurs-Zouaves	..	..	1 battalion from each of the 1st and 4th Zouaves. 26th, 8th and 16th Chasseurs.
1st Cavalry Division	..	..	2 brigades and 2 batteries.

II.—Blue Force.

Commander	..	..	G.O.C. 3rd Army Corps.
5th Division	..	..	9th Brigade (39th and 74th) 10th Brigade (36th and 129th) Divisional Artillery (3 groups)
6th Division	..	..	11th Brigade (24th and 28th) 12th Brigade (5th and 119th) Divisional Artillery (3 groups)
Corps Artillery	..	..	4 groups.
3rd Cavalry Brigade.			
Colonial Brigade	..	..	21st and 23rd Regiments.
3rd Cavalry Division	..	..	3 brigades and 2 batteries.

The Artillery at the Picardy Manœuvres in 1910.

12TH SEPTEMBER.

(Diagrams I and II.)

General Idea.—While the principal armies of the two forces are engaged in a theatre of operations distant from the coast, the Blue force has effected an important disembarkation on the coasts of Normandy.

Paris, a Red town, is completing its war garrison.

Red Force.

Special Idea.—The troops allotted to the defence of the section of the coast where the disembarkation has taken place, namely, the 4th Division and 2nd Cavalry Brigade, have retired to between Rouen and Amiens; they are under the orders of the General Officer Commanding 2nd District.

On the 11th September they concentrated on the plateau of Grandvilliers, covering the assembly of other troops of the 2nd District, namely, the 3rd Division, south of Amiens. (The 3rd Division will not be able to take the field till daylight on the 13th.)

The 2nd Cavalry Brigade holds Abancourt, and the 4th Division has its outposts on the front Moliens, Feuquières, Hautbos. These troops are in contact with the heads of the Blue columns which have advanced from Rouen by Buchy and Forges-les-Eaux on Gaillefontaine and Formerie on the one hand, and by Fleury-sur-Andelle on Gournay on the other hand.

The enemy's main body (the imaginary force disembarked) is assembling on the right bank of the Seine between Rouen and l'Epte. The points of passage of the Seine, at and below Gisors, are held by detachments of all arms.

On the same date, the General Officer Commanding 2nd District (headquarters at Conty) has received from the Commander-in-Chief the following secret instructions :—

Headquarters, Paris, 11th September, noon.

"All the forces assembling in Picardy are placed under your orders, namely :

"(a) 2nd Cavalry Brigade, 3rd and 4th Infantry Divisions, already under your command.

"(b) 1st Cavalry Division at Montdidier.

Outposts (1st and 2nd battalions 45th regiment) on the line Moliens, station south of Broquiers, point 205, Hautbos to be in touch on the left with the Écatèle detachment towards La Dreue and on the right with the 1st battalion 87th regiment towards the château north-west of Moliens.

The 1st battalion 87th regiment, with one section of machine guns, to occupy the high ground at point 221 and to push offensive reconnaissances in the directions of Blargies, wood of Formerie, Secqueville and Formerie, and to support the 2nd Cavalry Brigade if necessary.

Behind the outpost line, the 2nd battalion 87th regiment will hold the heights west of La Chaussée, and the 3rd battalion 45th regiment the height 197 to support the outposts.

In reserve, the 3rd battalion 87th regiment at La Chaussée with a section of machine guns and one battery of the 3rd group. The other two batteries to assemble at point 213 and to be ready to support the reconnaissances of the 1st battalion 87th regiment, taking up a position if necessary near point 221.

Criticism.—These instructions do not say to which commander the two batteries of the 3rd group assembled at point 213 are allotted, nor under whose orders they are to come into action to support, if necessary, the offensive reconnaissances of the 1st battalion 87th regiment. At the first request for support from the battalion commander, they will possibly proceed to the neighbourhood of point 221, where one battery is already posted,* and only one battery will remain to co-operate in the defence of the principal position.

This is not the way to prepare the employment of the artillery in the defence. The commander should cause the positions which will be occupied in the distant defence and in the close defence to be reconnoitred, but he should not let them be occupied till the last moment.

Moreover, the organization of a somewhat long line of defence should be decentralized. The ground should have been divided into two sections separated by the railway line and organized as follows:—

1st Section.—Colonel commanding the 45th regiment with 1st and 2nd battalions, one battery and half troop cavalry. Mission, to defend the north sector.

2nd Section.—Colonel commanding the 87th regiment with 1st and 2nd battalions. Mission, to defend the south sector.

In reserve.—3rd battalions of 45th and 87th regiments and two batteries.

The artillery commander, in collaboration with the commanders of the sections, should have caused the positions to be reconnoitred which would be occupied in the distant and in the close defence.

Blue Force.

Special Idea.—The Red troops defending the coast have retired

guard under the orders of the commander of the 3rd Army Corps, and consisting of the 5th Division, the Colonial Brigade, and the 3rd Cavalry Brigade.

The main body of the invading force is concentrating in the zone Rouen, Les Andelys, Étrépagne, covered in the direction of Paris by detachments holding the line Gisors-Bonnières.

On the evening of the 11th September, the 3rd Cavalry Brigade is at Formerie, with infantry in support; the 5th Division is in echelon from Gaillefontaine to Forges-les-Eaux; the Colonial Brigade at Gournay. The enemy holds the front Moliens, Feuquières, Hautbos.

On the same evening the commandant of the 3rd Army Corps (headquarters at Forges-les-Eaux) has received from the Commander-in-Chief of the invading force the following instructions:—

Headquarters, Rouen, 11th September, 6 p.m.

“ Hostile troops coming from the north and from the east are on the march to Amiens.

“ Endeavour to put out of action, before they are reinforced, the forces to which you are opposed.

“ You will then, with the reinforcements which I am sending you, continue your offensive movement energetically in the direction of Amiens in order to disperse the troops who appear to be concentrating there.

“ For the above purpose, the 6th Division (headquarters Lyons-la-Forêt) is placed under your orders from this evening, ready to march on the 12th at 6 a.m. From 4 a.m. on the 13th you will also have at your disposal the 3rd Cavalry Division, which will be assembled on the evening of the 12th at Gaillon (where its headquarters will be) and at Vernon, and twelve batteries, of which, on the 12th, six will be at Gisors and six at Andelys.

Decision of the Blue Commander.—The General Officer Commanding the Blue Force decides:—“ To attack the enemy on the morning of the 12th simultaneously and energetically along his whole front, so as quickly to drive back his advanced troops, to engage his reserves, and to force them to fight.

“ Consequently, the 3rd Cavalry Brigade will re-establish contact with the enemy along his whole front, and will manoeuvre to outflank him on the south.

“ The 5th Division will attack on the front Hautbos, Feuquières, Broquiers.

“ The Colonial Brigade will remain at the disposal of the General Officer Commanding the Blue Force and will move by Sully on Loueuse, covered by a flank guard of two battalions and one battery marching by Songeons and Morvillers.

“ The advanced guard of the 6th Division, at the end of its march, should reach the Thérain.

“ The 3rd Cavalry Division, with the Corps Artillery, will move to Gournay.”

Dispositions made by the General Officer Commanding 5th Division

" Gaillefontaine, 11th September, 11 p.m.

" The 5th Division will move to-morrow, 12th September, in two columns.

" Left column, under the command of the brigadier commanding the 10th Brigade, will consist of one and a-half troop cavalry, the 10th brigade, one group artillery; route Gaillefontaine, Formerie, Feuquières, Grandvilliers.

" Right column, under command of the brigadier commanding the 9th brigade, half troop cavalry, the 9th brigade, one group artillery, and the Engineer Company; route Campeaux, Mureaumont, Saint-Arnoult, Hautbos, Halloy.

" Flank Guard.—The 10th brigade will throw out a flank guard to cover the left flank of the division.

" The remainder of the divisional squadron (two troops) will reconnoitre the enemy's front to the north of the road through Formerie, Feuquières, and Grandvilliers, and will specially endeavour to locate the right of the enemy's front.

" The advanced troops of the heads of columns will cross the line Epeaux, Mureaumont, Secqueville, Blargies at 8 a.m.

" Communications.—Between brigades, along the cross roads Mureaumont—Blargies and Moliens—St. Arnoult.

" The 9th brigade will maintain communication with the Colonial Brigade.

" In case the enemy is encountered, the brigades will attack as follows:—

" Left column, to the north (inclusive) of the road Formerie—Feuquières—Grandvilliers.

" Right column, to the south (exclusive) of the same road.

" They will each leave two battalions at the disposal of the General Officer Commanding Division.

" The General Officer Commanding the Division will march at the head of the main body of the left column."

Criticism.—The General Officer Commanding the Division allots beforehand one group to each of the two brigades. He organizes his two brigades as two miniature divisions. He keeps no artillery at his own disposal. His 3rd group, in fact, has been handed over to the Colonial Brigade. We shall see shortly that one of his brigadiers, in his turn, gets rid of his artillery by handing it over to one of his colonels, who again proceeds to scatter it.

This error, which was frequently committed at the 1910 manœuvres, is the result of a mistaken interpretation of the Ministerial circular of 10/3/1910. This circular lays down that "Troops of all arms, momentarily employed on the same task, must, on the field of battle, obey the same commander." But the circular does not prescribe the grouping, under the same commander, of units which have not yet any task to fulfil.

A "task" on the battlefield (*mission de champ de bataille*) is the attack of a supporting point, or the defence of a position; it is not a march towards an enemy not yet located.

guard under the orders of the commander of the 3rd Army Corps, and consisting of the 5th Division, the Colonial Brigade, and the 3rd Cavalry Brigade.

The main body of the invading force is concentrating in the zone Rouen, Les Andelys, Étrépagne, covered in the direction of Paris by detachments holding the line Gisors-Bonnières.

On the evening of the 11th September, the 3rd Cavalry Brigade is at Formerie, with infantry in support; the 5th Division is in echelon from Gaillefontaine to Forges-les-Eaux; the Colonial Brigade at Gournay. The enemy holds the front Moliens, Feuquières, Hautbos.

On the same evening the commandant of the 3rd Army Corps (headquarters at Forges-les-Eaux) has received from the Commander-in-Chief of the invading force the following instructions :—

Headquarters, Rouen, 11th September, 6 p.m.

“ Hostile troops coming from the north and from the east are on the march to Amiens.

“ Endeavour to put out of action, before they are reinforced, the forces to which you are opposed.

“ You will then, with the reinforcements which I am sending you, continue your offensive movement energetically in the direction of Amiens in order to disperse the troops who appear to be concentrating there.

“ For the above purpose, the 6th Division (headquarters Lyons-la-Forêt) is placed under your orders from this evening, ready to march on the 12th at 6 a.m. From 4 a.m. on the 13th you will also have at your disposal the 3rd Cavalry Division, which will be assembled on the evening of the 12th at Gaillon (where its headquarters will be) and at Vernon, and twelve batteries, of which, on the 12th, six will be at Gisors and six at Andelys.

Decision of the Blue Commander.—The General Officer Commanding the Blue Force decides :—“ To attack the enemy on the morning of the 12th simultaneously and energetically along his whole front, so as quickly to drive back his advanced troops, to engage his reserves, and to force them to fight.

“ Consequently, the 3rd Cavalry Brigade will re-establish contact with the enemy along his whole front, and will manoeuvre to outflank him on the south.

“ The 5th Division will attack on the front Hautbos, Feuquières, Broquiers.

“ The Colonial Brigade will remain at the disposal of the General Officer Commanding the Blue Force and will move by Sully on Loueuse, covered by a flank guard of two battalions and one battery marching by Songeons and Morvillers.

“ The advanced guard of the 6th Division, at the end of its march, should reach the Thérain.

“ The 3rd Cavalry Division, with the Corps Artillery, will move to Gournay.”

Dispositions made by the General Officer Commanding 5th Division.—In compliance with the above, the General Officer Commanding the 5th Division issues the following order :—

" Gaillefontaine, 11th September, 11 p.m.

" The 5th Division will move to-morrow, 12th September, in two columns.

" Left column, under the command of the brigadier commanding the 10th Brigade, will consist of one and a-half troop cavalry, the 10th brigade, one group artillery; route Gaillefontaine, Formerie, Feuquières, Grandvilliers.

" Right column, under command of the brigadier commanding the 9th brigade, half troop cavalry, the 9th brigade, one group artillery, and the Engineer Company; route Campeaux, Mureaumont, Saint-Arnoult, Hautbos, Halloy.

" Flank Guard.—The 10th brigade will throw out a flank guard to cover the left flank of the division.

" The remainder of the divisional squadron (two troops) will reconnoitre the enemy's front to the north of the road through Formerie, Feuquières, and Grandvilliers, and will specially endeavour to locate the right of the enemy's front.

" The advanced troops of the heads of columns will cross the line Epeaux, Mureaumont, Secqueville, Blargies at 8 a.m.

" Communications.—Between brigades, along the cross roads Mureaumont—Blargies and Moliens—St. Arnoult.

" The 9th brigade will maintain communication with the Colonial Brigade.

" In case the enemy is encountered, the brigades will attack as follows:—

" Left column, to the north (inclusive) of the road Formerie—Feuquières—Grandvilliers.

" Right column, to the south (exclusive) of the same road.

" They will each leave two battalions at the disposal of the General Officer Commanding Division.

" The General Officer Commanding the Division will march at the head of the main body of the left column."

Criticism.—The General Officer Commanding the Division allots beforehand one group to each of the two brigades. He organizes his two brigades as two miniature divisions. He keeps no artillery at his own disposal. His 3rd group, in fact, has been handed over to the Colonial Brigade. We shall see shortly that one of his brigadiers, in his turn, gets rid of his artillery by handing it over to one of his colonels, who again proceeds to scatter it.

This error, which was frequently committed at the 1910 manoeuvres, is the result of a mistaken interpretation of the Ministerial circular of 10/3/1910. This circular lays down that "Troops of all arms, momentarily employed on the same task, must, on the field of battle, obey the same commander." But the circular does not prescribe the grouping, under the same commander, of units which have not yet any task to fulfil.

A "task" on the battlefield (*mission de champ de bataille*) is the attack of a supporting point, or the defence of a position; it is not a march towards an enemy not yet located.

By distributing his artillery, at the outset, between his two brigades, the divisional commander has deprived himself of the power

to deliver an attack in force on a point chosen by himself; he has abdicated command to his subordinates. It is true that he had formed a reserve, for his own use, consisting of four battalions, two from each brigade; but he will presently disperse this reserve (which, moreover, was not a homogeneous body) by handing it over, bit by bit, to his two brigadiers.

It is true that the Army Corps order which he has received is, to some extent, such as to dispose him to this course. For this order directed him to attack the enemy suddenly and violently on a front of more than four miles, and thus incited him to deploy in several columns of all arms and to attack positions which had not yet been reconnoitred.

Protected by the outposts, which extend along the line Le Valbonnet, Secqueville, Campeaux, Saint Samson, the 5th Division moves off in two brigade columns. As soon as they have passed the outposts, the brigades assume a formation of "march of approach," the infantry moving across country and the artillery remaining on the roads.

The 9th brigade takes as its objective Hautbos and Feuquières; the I/39* and II/39 to the north of the Mureaumont-Colagnies—Saint Arnoult road, the I/74 and II/74 to the south. The 2nd artillery group keeps to the road. The III/39 and III/74 are to move on Boutavent to be at the disposal of the General Officer Commanding the Division.

The objective of the 10th brigade is the château of Moliens, and Feuquières station (south of Broquiers); the I/129 and II/36 march on the château of Moliens, the I/36 on Feuquières station. The 1st artillery group keeps to the Formerie—Secqueville road.

The III/129 and III/36 are to halt at Formerie, at the disposal of the General Officer Commanding the Division. The II/129 forms a flank guard and marches by Pierremont, Criquiers and Blargies.

Criticism.—In their turn, the brigadiers each form two or three small columns, each of a strength of one or two battalions. These columns march, semi-deployed, upon an objective which has not been reconnoitred.

This march across the fields is very slow and fatiguing. If the presence of the enemy had rendered it necessary, this march should have been made under the protection of the artillery.

In short, the 5th Division advances without advanced guard, forming a thin line of no depth, to attack the whole extent of a front of $3\frac{1}{2}$ miles, knowing nothing of the dispositions of the enemy, and without reserving the freedom of action of its artillery. These dispositions, which would have been very dangerous in face of an active enemy, are destined to lead to a series of small combats without cohesion.

NOTE.—The following is extracted from "Manœuvres de Picardie, Observations du general Michel," p. 24 :—

* See list of abbreviations, page 3.

"Owing to the extension of the front, the forces of the division are gradually frittered away in a series of minor combats, individually well conducted, but lacking combination."

ENGAGEMENT OF THE TWO FORCES.

Blue Force.

Towards 7.45 a.m., the flank guard of the 10th Brigade is surprised, at the south of the Lagachet wood, by the fire of guns, of machine-guns, and of the carbines of the Red Cavalry Brigade. The II/129 is kept back for $\frac{1}{4}$ hour by the umpires. The left column of the 10th brigade, finding itself unguarded, is checked in its march by the threatening attitude of the Red cavalry. The battery attached to this cavalry is in action near point 221 (south-east of Petit-Moliens) and opens fire about 8.30 a.m. on the I/129 at the moment when this battalion commences its attack on Moliens, which is held by two Red companies.

Criticism.—Whether the infantry marched too fast, or the guns too slowly, the result is the same; the artillery group charged with the support of the attack on Moliens does not fire on the objective of the attack, but merely engages the enemy's artillery.

It may be said that the two Red companies which held Moliens evacuated it without offering any serious resistance. But this shows the danger of distributing the artillery among the different infantry units before obtaining touch with the enemy. Artillery thus attached have every chance of finding themselves either too weak or else superfluous.

The 1st group receives orders to support the attack on Moliens. One battery is immediately brought into action at point 221, 1,100 yards east of Secqueville, its task being to oppose (*contrebattre*) the artillery of Petit-Moliens. In the meantime the group commander searches for a position from which his two other batteries can support the infantry attack. But the Reds evacuate Moliens, threatened by the outflanking movement of the II/36, before the batteries can intervene.

Criticism.—The 1st group has achieved nothing, and even its counter-battery was useless. Threatened by the rifles of the Blue infantry in possession of Moliens, the Red artillery at point 221 had to retire.

Red Force.

At 7 a.m. the brigadier of the 8th brigade orders his artillery commander "to send a battery to be at the disposal of the colonel of the I/87 at Les Calais."

The group commander details the 3rd battery of the 4th divisional artillery, which is the brigadier's reserve battery at La Chaussée.

Criticism.—It is not apparent why a battery was given to this battalion, since no change in the situation had taken place.

The brigadier has now no more artillery in hand. The two batteries at point 213, sent there without any task, have taken up positions of observation, one facing La Neuville and the other Broquiers.

About 7.15 a.m. the brigadier of the 8th brigade gives the following instructions to his outpost commander :

"Do not let yourself become seriously engaged ; when the combat is broken off, the I/87 will retire on Haleine, the I/45 towards point 213, and the II/45 towards point 197.

"It is the General's intention to form a temporary tactical unit consisting of the I/45, the II/87, and the artillery at point 213, under the orders of the colonel commanding the 87th regiment."

Criticism.—It is unsound to form a temporary tactical unit without any task.

Moreover, this intention was never carried out, as the brigadier abandoned it at 8.50 a.m.

About 8.15 p.m. the brigadier, anxious as to what is happening at Moliens, gives the following order to the group commander :

"Send one battery to the station south of Broquiers to watch in the directions of Montceaux and Saint Arnoult. Its task is to fire a few salvoes in order to induce the enemy to deploy, and to deceive him as to the forces which hold Broquiers and Feuquières, and then to return and take up a position at point 213."

This order is at once forwarded for compliance to the 1st battery. One section comes into action at Broquiers station, the other near point 205. The 2nd battery continues to watch the whole of the edge of the woodlands east of Broquiers.

Criticism.—Here we have a battery which, without being attached to any infantry unit, is sent forward to fire vaguely in a direction where it is supposed that the enemy will be kind enough to offer it a target. We can hardly imagine a worse case of the want of combination of the two arms.

There was a commander on the spot who was obviously the man to employ the 1st battery, namely the commander of the advanced guard. This battery should have been placed under his orders.

At 8.50 a.m. the brigadier of the 8th brigade cancels his instructions of 7.15, and decides that "the I/45 is to retire on Grasse, the II/45 on Moulin de Sarnois, unmasking the front of the II/87 at point 213 and the III/45 at point 197. Under the orders of the colonel of the 45th regiment, they will occupy the front N.-D.-de Vieville—Moulin de Sarnois."

In the meantime the divisional reserve has assembled, the 54th regiment to the west of the Viteaux wood, the 67th in the wood. The first two groups of the 4th divisional artillery are to the north of the wood.

The commander of the divisional artillery has caused positions to be reconnoitred, between La Chaussée and Sarcus and to the west of the Viteaux wood, from which he will be able to fire on the exits from Broquiers and Feuquières and the interval between Feuquières and Brombos.

Criticism.—It appears from the dispositions adopted that the intention of the divisional commander was to fight a systematic action in retreat, obliging the enemy to deploy the greatest possible number of men. He would have done better to tell his brigadier so plainly. The brigadier would then have strengthened his outposts with a small force of artillery to be employed *en caponnière* (that is, in positions flanking the ground between them). The remainder of the group would have assisted in the distant defence.

The divisional commander should then have caused the commander of the divisional artillery to reconnoitre positions which might afterwards be taken up by the artillery reserve, from which it could co-operate in the defence of the line of resistance 213-197. This reconnaissance should have been carried out in collaboration with the brigadier of the 7th brigade.

At 9.30 a.m. the colonel commanding the 4th divisional artillery gives the following order to his lieutenant-colonel:

“Find a position on the outskirts of Brombos for one section *en caponnière*, such that it can fire on the outskirts of Feuquières and can support the retirement of the infantry (II/45) holding Hautbos. Place this section under the orders of the commander of II/45 for the execution of its task.”

This section, taken from the 1st group, 4th divisional artillery, comes into action at 10 a.m. but does not open fire till 12.50 p.m.

Criticism.—The colonel commanding the artillery here usurps (probably unconsciously) the prerogative of the divisional commander. He tells his lieutenant-colonel to post one section *en caponnière*. He hands the section over to the commander of the II/45 battalion, thus passing over the commander of the 8th brigade and the commander of the 45th regiment.

Moreover, this section was not required at the time, and did not open fire till 2½ hours later.

COMBATS IN ADVANCE OF THE FIRST LINE OF RESISTANCE.

Blue Force.

About 10.30 a.m. on the same day (the 12th) the 10th brigade, which has seized Moliens, is again checked by the Red infantry before Pleuville and Broquiers.

The General Officer Commanding 5th Division has just handed the III/129 back to the brigadier of the 10th brigade. He had hitherto kept this battalion at his own disposal.

The brigadier of the 10th brigade, wishing to carry Broquiers, gives the following order:

“The I/129 to march on Pleuville, the I/36 on Broquiers; the II/36 will march behind these two battalions. in the centre Direction

of march, north of the church in Broquiers. Reserve: the III/129 will move to point 210. Two batteries are in positions of observation north-east of Montceaux. One battery will follow the movements of the II/36. The brigadier-general is moving to the level crossing south of Moliens."

The Red battery in position near Broquiers station, perceiving the movement of the 10th brigade, opens fire on it, and the Blue batteries at point 210 immediately reply. Although the attack on Broquiers is not supported by artillery, the 10th brigade has no great difficulty in carrying it, for the defenders of the village (I/45), having been ordered not to allow themselves to become entangled in an engagement, retire of their own accord, unmasking the front of the II/87 which is entrenched on the ridge at point 213.

Criticism.—These attack orders are badly framed. It is not clear who commands the infantry, who commands the artillery, what is the task of the two batteries in position, or what is the object of the battery following the II/36.

According to the Ministerial circular of 10/3/1910, the task of the artillery is clearly defined when, in the support of an attack, the following information has been given to it:—

The objective of the attack, the troops who are to execute it, the dispositions made by the commander of these troops, and the known or presumed position of the enemy's batteries.

If the brigadier of the 10th brigade wished to make an attempt upon Broquiers, he should have informed the group commander and should have instructed him as to the battalions who were to participate in it, and the infantry commander with whom he was to place himself in communication. The brigadier might either leave it to the group commander to choose a position for the battery, or he might direct him to keep to the ground east of Monceaux. But he should, in any case, leave him free to control the employment of his three batteries.

The employment of the battery which follows the II/36, and is under no one's orders, is absolutely incomprehensible. The result was that, as at Moliens, nobody fired at the objective of the attack, and the batteries were contented to engage the enemy's artillery.

Moreover, this deployment of artillery was quite useless, since the defenders of Broquiers retired without serious resistance.

The 9th brigade, on the other flank, advanced very slowly. About 10.30 a.m. the 39th regiment issued from the wood of St. Arnoult, driving back one or two Red companies; it then came under the fire of the defenders of the Feuquières wood (II/45) and of the Red artillery at point 205. The umpires stopped it for 40 minutes. About 11 a.m. the 2nd group, at the disposal of the 9th brigade, at last comes into position south of Marcoquet, and two of its batteries open fire. One opposes, as counter-battery, the artillery at point 205, the other fires upon the defenders of the Feuquières woods. Thanks to this support, the 39th regiment is able, towards noon, to get a footing in Feuquières.

To the right rear, the 74th regiment reaches Omecourt about 11 a.m. and at noon it occupies Hautbos unopposed.

To the right of the 5th Division the Colonial Brigade is assembled near Loueuse, covered by its advanced guard at Omécourt, and St. Deniscourt, and by a flank guard towards Morvillers.

Towards noon it receives from the commander of the Blue Force the following order :—

"The enemy appears to be numerically inferior to us by about one division. The Colonial Brigade will advance to the attack, on a front extending beyond the south side of Hautbos, so as to envelop the enemy's left flank, its objective being the front Brombos-Briot. In this movement it will keep touch with the 5th Division, which is attacking Brombos with the right of its line.

"The movement will commence at 12.30 p.m."

Criticism.—The enemy is not located ; his outposts alone have been driven in, yet already the Blue commander has formed his decision to envelop his left flank, supposed to be at Hautbos, but which, as will be seen, is considerably further east.

Red Force.

12th September.

At this moment (noon) the situation of the Red Force is as follows :—

On the right, the cavalry brigade, two batteries, and the I/87 towards Haleine, have been entrusted with the task of checking any outflanking movement on this flank. In the centre, the II/87 holds point 213, the III/45 holds point 197 ; the III/87 is in reserve at La Chaussée, and the I/45 and II/45 are in retreat towards Elencourt.

Two batteries of the 2nd group, at the disposal of the brigadier of the 8th brigade, are at point 213, watching the outskirts of Broquiers. One section of the 1st group is to the north-west of Brombos, ready to support the defence of this village.

On the left, the lieutenant-colonel of the 45th regiment is still at St. Maur with the I/67 and three troops.

In rear, the reserve (7th brigade and two groups) near the Viteaux wood, has just received the order to occupy the position of retirement Briot-Les Zalleux-Moulin de Sarnois. The brigadier of the 7th brigade, to whom this task is entrusted, has at his disposal the whole of the reserve less the 1st group and II/67, which remain at Viteaux wood under the orders of the General Officer Commanding the Division.

At the same time the brigadier of the 8th brigade receives an order to hand over the 3rd group to the commander of the divisional artillery "as soon as his brigade is engaged in the defence of the front Brombos-La Chaussée. The commander of the divisional artillery will give the necessary instructions to this group to enable it to support the 8th brigade, taking up a position to the north of La Chaussée.

At noon a second section of the 1st group is placed at the disposal of the lieutenant-colonel of the 45th regiment at Écatèle. Owing to a mistake, it is ordered to place itself at the disposal of the brigadier of the 8th brigade at Briot. In consequence it gets lost.

Criticism.—The General Officer Commanding the Division takes back the 3rd group from the brigadier of the 8th brigade just when this

officer has occasion to use it, and he hands over the 2nd group to the brigadier of the 7th brigade before he has any use for it.

It is the commander of the divisional artillery who gives the 3rd group the necessary instructions for the support of the defence of the position held by the 8th brigade. The brigadier of this brigade was the only person qualified to give these instructions. It is not the duty of the commander of the divisional artillery to take command himself of temporary tactical units.

ATTACK UPON THE LINE LA CHAUSSÉE-BROMBOS-BRIOT.

Blue Force.

12th September.

About 11 a.m. the General Officer Commanding the 3rd Army Corps issues the following order to the commanders of the 5th Division and of the Colonial Brigade :—

“You have only one division in front of you.* You will therefore boldly continue the movement in advance. I will engage the Colonial Brigade as soon as the situation is cleared up.”

Half an hour later the General Officer Commanding the 3rd Army Corps issues to the Colonial Brigade the order reproduced a few pages back, and telegraphs to the General Officer Commanding the Division :

“The Colonial Brigade, with its front extending to the south beyond Hautbos, will attack so as to envelop the enemy's left, its general objective being Brombos-Briot. Press your attack, making your principal effort on the right, and keeping touch with the Colonial Brigade, which will start from Loueuse and will move off at 12.30 p.m.”

From noon onwards the attack of the Blue Force develops along the whole Red front. Owing to the extent of this front, the attack will soon afterwards break up into three distinct engagements, conducted by each of the three brigades (the 10th, the 9th and the Colonial Brigade).

Criticism.—As a matter of fact, the Blue Force has not located the enemy, and is marching upon topographical objectives.

10th Brigade.—At 12 noon the brigadier of the 10th brigade has received the following order from the General Officer Commanding the Division :—

“The 5th Division has only one division in front of it. You will therefore boldly continue the movement in advance. The III/36 is again placed at your disposal, and has been ordered to move on Moliens.”

Almost immediately afterwards he receives a fresh order from General Officer Commanding the Division, ordering them to check the pace of his advance till the 9th brigade has had time to issue from Feuquières.

* There is nothing to show that this is so, unless it be information derived from sources extraneous to the combat.

In compliance with the above, the brigadier of the 10th brigade gives the following order :—

(1) The two battalions in the front line, I/129 and I/36, will not move to the east beyond point 213.

(2) The II/36 is placed at the disposal of the colonel commanding the 36th regiment, and the III/36 at the disposal of the colonel commanding the 129th regiment.

(3) The artillery will place in position two batteries to the north of Pleuville, and one battery to the south-east of Broquiers. Their task will subsequently be to support the advance on point 213.

(4) The III/129 remains at my disposal near the level crossing south of Moliens.

(5) My position* will be at the north exit from Pleuville.

In the meantime the 3rd group of the 5th divisional artillery, which had in the morning been allotted to the Colonial Brigade, had been replaced by the 1st and 3rd groups of the 6th divisional artillery, which had preceded their division. The 3rd group of the 5th divisional artillery is replaced at the disposal of the General Officer Commanding the Division, who then issues the following order :—

“ 12.35 p.m. Feuquières.

“ Orders by General Officer Commanding 5th Division to brigadiers commanding 9th and 10th brigades and to the colonel commanding 5th divisional artillery.

“ The 10th brigade will continue its march to the east so as to seize the line Sarcus-La Chaussée. It will not be stopped.

“ The 9th brigade, having seized Feuquières, will move on Grandvillers, its left resting on the Feuquières-Grandvillers road. It will keep touch on the left with the 10th brigade and on the right with the Colonial Brigade.

“ The group of artillery will remain in observation to the north of Feuquières, between the village and the railway, at the disposal of the General Officer Commanding the Division.”

Criticism.—As a matter of fact, there is no immediate check in the advance of the 10th brigade. This brigade will halt when it has occupied point 213, which is not what the divisional commander wanted.

If the brigadier wished to carry point 213, he should have organized the attack upon it. All he did was to divide his infantry between his two colonels, keeping only one battalion for himself. As for his artillery, he kept it at his own disposal and placed it in position, with a subsequent task to fulfil. Here we have the artillery and the infantry acting separately. The infantry itself is not under the orders of a single commander.

The divisional general, when informed that the 3rd group of the divisional artillery had been replaced at his disposal, might have profited by the opportunity to form an artillery reserve for himself. None of his three brigadiers has asked him for reinforcements. Yet his first care is to expend this group, which he places in observation between Feuquières and the railway. Certainly he adds “ at the

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disposal of the General Officer Commanding Division." But a group of artillery in observation, with no other task assigned to it, is fatally certain to open fire on the first target which appears in its zone. This is what the group commander actually did, and this is what will always happen.

Similarly with the 1st group of the 5th divisional artillery, whose task was "subsequently" to support the advance on point 213. No one informed the group commander that the Reds had entrenched this position, or that it had become the objective of the attack of the 10th brigade. Accordingly he commences an artillery duel with the Red batteries which he perceives in his zone of observation. This is the third time on this day that the artillery detailed to support the infantry merely fights the enemy's artillery, and fails to fire on the objective of the attack. At 1.15 p.m. the umpires notice this fact, and they oblige the attack to halt.

The artillery of the 10th brigade does not come into action till about 1 p.m., but instead of supporting the advance of the infantry it engages the enemy's artillery near point 213 and at Haleine, which has opened fire on the infantry of the 10th brigade.

At the same hour the lieutenant-colonel of the 5th divisional artillery, by order of the General Officer Commanding the Division, brings the 3rd group of the 5th divisional artillery into action $\frac{1}{4}$ mile west of the Feuquières-Sarinois road.

Towards 1.30 p.m. this group receives an order from the General Officer Commanding the Division "to support the advance of the infantry on La Chaussée."

While the artillery units are successively brought into action, the 10th brigade attacks the trenches on the ridge at point 213, but it is stopped at 1.15 p.m. by the umpires. These decide that it can make no further progress, not being supported by artillery. (See Diagram I.) It does not recommence its march till 1.30 p.m., and it is not till after 2 p.m. that it captures the trenches at point 213 and on the neighbouring heights.

Criticism.—At 1.30 p.m. the General Officer Commanding the Division, in pursuance of his plan of 12.35 p.m., orders the 3rd group to support the advance of "the infantry" on La Chaussée. He does not say which infantry, and he is, moreover, not aware that at this moment the attack of the 10th brigade is directed upon point 213 and not upon La Chaussée. He directs the lieutenant-colonel of the 5th divisional artillery, who happens to be unemployed at the moment, to give the necessary instructions to the 3rd group. He neglects to place this group under the orders of the brigadier of the 10th brigade, who is in command of the attack, and who has already one group at his disposal. He ought to have organized the 10th brigade and the 1st and 3rd groups of the divisional artillery into a temporary tactical unit (*groupe momentanée*) as prescribed by Ministerial Circular of 10/3/1910.

The lieutenant-colonel of the 5th divisional artillery orders the commander of the 3rd group to fire on La Chaussée and to engage the

enemy's artillery in action to the south-east of this village. In order to avoid confusing the shells of the 3rd group with those of the 1st group, he points out to the latter the zone to be engaged by the 3rd group, which he himself proposes to observe. This is a praiseworthy but insufficient attempt to avoid confusion of observation. He should have taken possession of the 1st group and formed it and the 3rd into a group of six batteries under his own command. He should then have gone to the brigadier and have said to him "The General Officer Commanding Division directs me to support your attack on La Chaussée; I have come to place myself, with two groups, under your orders." The brigadier would then have told him that the attack was being directed on point 213 and not on La Chaussée.

The result of this want of organization of command is that, for the fourth time on this day, not a gun fires on the objective of the attack. The 1st group 5th divisional artillery continues to fight the enemy's artillery, while the 3rd group fires at an objective which the infantry is not attacking at all.

9th Brigade.—At 12.30 p.m. the 39th regiment issues from Feuquières and marches on point 197, La Chaussée, while the 74th, which is entering Hautbos, receives orders to attack Brombos. As for the 2nd group of the 5th divisional artillery, it is ordered to "move towards Feuquières and be ready to support the infantry." (See Diagram I.) But, towards 2 p.m., the General Officer Commanding the Division, having ordered the 9th brigade to dispose its main strength on the right in order to keep touch with the Colonial Brigade, the march on La Chaussée is abandoned, and the brigadier orders the 39th regiment to attack the Viteaux wood while the 74th attacks Brombos.

The 2nd group, 5th divisional artillery, in position east of Feuquières, supports the latter attack and engages the Red artillery which has just appeared to the north-west of Brombos. It fires on the exits from the Brombos wood.

Criticism.—This method of employing artillery results from the manner in which the combat has been conducted. Over the whole battlefield we see the regiments marching in approximately parallel directions at wide intervals. Neither the 5th Division nor the brigades have an advanced guard. The reconnaissance of the enemy, and the information furnished by the engagement of the advanced guard, are utterly lacking. The action of the advanced guard cannot be replaced by skirmishes of the battalions in the fighting line with the enemy's outposts. These skirmishes have no connection with each other, and if they succeed the work has to be done over again, since there are no troops to follow up the advantage, as the division is formed in a thin line of no depth. Under these conditions, it is not surprising that each brigade employed its artillery as in an advanced guard action.

Colonial Brigade.—The Colonial Brigade, reinforced by the 1st and 3rd groups of the 6th divisional artillery, has been assigned by

the General Officer Commanding Army Corps, as its general objective, the front Brombos-Briot. It advances at 12.30 p.m. as detailed in the following order :—

Loueuse, 12.10 p.m.

(1) The enemy, strength estimated at one division, is holding in front of the brigade the line Hautbos-St. Maur. His left appears to be at St. Maur, and he possibly holds Marseille-le-Petit.

(2) The task of the Colonial Brigade is to attack the enemy, extending our front beyond the south of Hautbos, and to envelop his left flank. Our general objective is Brombos-Briot.

The 21st regiment, which has now one and a-half battalions near Thérines, one battalion at Loueuse, and one group of artillery at point 194, will advance by Thérines and St. Maur to attack Briot.

The 23rd regiment, which has now two companies at Omécourt and one battalion at point 194, will support the attack of the 21st, advancing by St. Deniscourt, wood of La Creuse and Écatèle; final direction Brombos. One group of artillery will be at point 204 to support the debouching of the troops beyond Thérines. One battalion of the 23rd will be in reserve at St. Deniscourt and Thérines. The two remaining companies of the 23rd will be in support (escort) of the artillery at point 204.

The movement will commence at noon.

(3) The brigadier will be with the reserve.

Criticism.—Hautbos is already in possession of the 9th brigade. As to the enemy's left, the position of this is unknown.

The Colonial Brigade has already infantry detachments at Thérines and St. Deniscourt. Therefore it is not apparent why the two groups should be brought into action at point 194 and point 204.

The latter group is ordered "to support the debouching of the troops beyond Thérines." This is incomprehensible. If it is intended to mean that the artillery will support the attacks made by the brigade after it has debouched from Thérines, then this is an inadmissible task. For it is unsound to order a group, when in action, to support the attack on an objective which is not yet known.

Moreover, point 204 is 5,500 yards from any possible target beyond Thérines.

Like the 9th and 10th brigades, we have here the Colonial Brigade marching on topographical objectives without an advance guard, without having reconnoitred or located the enemy. This is one of the features which characterize the manœuvres of the 12th September.

The 23rd regiment advances on the wood at La Creuse and on Écatèle, with its two battalions abreast, the third being the brigade reserve. The 21st regiment marches on St. Maur, with its three battalions echeloned between the wood at Monsure, Thérines and the wood at La Creuse.

About 1.30 p.m. the leading battalion of the 21st regiment, marching on the north angle of St. Maur, is checked by Red infantry holding St. Maur and Écatèle. It deploys, and is reinforced by part of the 2nd battalion, but this attack is taken in flank by the fire from

Écatèle, and, as it is not supported by any artillery, the umpires decide that it can make no further progress. It is not till 2.40 p.m. that St. Maur, enveloped on the south by the 3rd battalion of the 21st regiment, and bombarded by the 3rd group, 6th divisional artillery, falls into the hands of the 21st regiment. The Red battalion continues to hold Écatèle, which has not been attacked.

At 2.30 p.m. the 1st group 6th divisional artillery receives the order to move "by Le Ply and Thérines on the crest north of Mont Aubert, and there to join the other group."

Criticism.—It is not apparent what is the task of the 1st group, to whom it is allotted, nor who is to command the two massed groups.

Owing to the severe effort made by the 21st regiment and to the entanglement of the different units after the successful assault on St. Maur, the umpires decide that this regiment is not to resume the offensive till 3.15 p.m.

On the left, the 23rd regiment had made slow progress through the thickly-wooded country between St. Deniscourt and La Creuse. It is not till 3.30 p.m. that it issues from this village and advances on Écatèle.

On the extreme right, the cavalry brigade is at Fontaine-Lavaganne with detachments at Gaudechart.

Red Force.

At noon the colonel commanding the 4th divisional artillery had ordered the commander of the 3rd group to "reconnoitre a position between Hayon and Grasse, to be occupied when the task at point 213 has terminated."

The commander of the group decides to retire his two batteries from point 213 at once, by echelons.

The 1st battery takes up a position, at 12.15 p.m., 1 mile north of La Chaussée, to the west of and close to the La Chaussée-Grasse road. The 2nd battery comes into action 550 yards north-west of Wallon about 12.30 p.m. The 3rd battery, which had been detached at point 210 near Haleine, with the I/87, has received the order to re-join, and at 1 p.m. it takes up a position east of the La Chaussée-Sarcus road, two-thirds of a mile south of Sarcus steeple.

These three batteries, crossing their fire, engage the infantry debouching into the zone between Feuquières steeple and La Neuville, which they have divided between them. (See Diagram I.)

Criticism.—It will be remembered that the General Officer Commanding the Division had handed over the 3rd group to the commander of the divisional artillery, just at the moment when the 8th brigade was about to become engaged on the front Brombos-La Chaussée.

The want of precision of the order given by the commander of the 4th divisional artillery accentuates the mistake made by the General Officer Commanding the Division. The only man in a position to instruct this group as to its task would have been the brigadier.

The echelon movement of the 3rd group is not carried out intelligently. Not one of the batteries is charged with the task of

engaging the enemy's artillery, nor is any battery detailed to fire upon the infantry targets which the battery on the move is temporarily obliged to abandon.

Finally, it should be remembered that the zone kept under observation by this group is some 4 miles in extent.

Between 1.15 and 2.15 p.m. a fresh change of position by echelons takes place. The 1st battery moves to a point half a mile north of Wallon; the 3rd afterwards comes into action alongside the 1st, and finally the 2nd rejoins the other two, so that by 2 p.m. the whole group is in position, each battery having the same zone of action as before.

A little after 2.15 p.m. the brigadier of the 8th brigade orders his brigade to assemble in the ravine north of Grandvilliers, behind the 7th brigade, which holds the front Sarnois-Les Zalleux-Briot. This movement is carried out slowly, and it is only at 3 p.m. that the Blues capture Brombos and La Chaussée.

On the right, the I/87 and the 2nd cavalry brigade follow the movement in retreat of the 8th brigade. This detachment retires successively on Haleine, Sarcus and Taillefer (two-thirds of a mile north of Sarcus). Its battery, which is in position at point 210, fires several times between noon and 2 p.m. on lines of Blue infantry issuing from La Neuville and Broquiers, and marching in the general direction of Grasse and Hayon (see Diagram I). It then follows the cavalry brigade, takes up a position near Taillefer about 3 p.m., and opens fire on the infantry near the Rouen road south of Grasse, by order of the commander of the cavalry brigade.

At this moment the cavalry brigade receives from the commander of the Red Force an order to move towards Thieuloy and to cover the left of the 4th Division.

In the meantime, this is what is happening with the reserve of the 4th Division:

The 7th brigade originally, at 11.25 a.m., received orders to occupy the front Elencourt, Sarnois, Briot, with the 2nd group of the 4th divisional artillery, while the 8th brigade evacuated the line Brombos-La Chaussée under the protection of the 3rd group.

We have seen what happened to the 3rd group. As for the 2nd group, it receives, shortly after noon, an order from the commander of the divisional artillery to "move to the battery positions reconnoitred south of Sarnois, to prevent the enemy from issuing from the front Viteaux wood-La Chaussée-Hayon. The batteries are not in position till 1 p.m., they are then in action near the mill at Sarnois. The group commander divides the zone to be watched between these two batteries, and instructs them "to open fire as required by their tasks." (The 3rd battery is with the cavalry brigade.) It is not till 3.30 p.m. that the two batteries find an opportunity of firing on the Red infantry. (See Diagram I.)

The 1st group was ordered to remain in reserve at Viteaux wood, less one section given to the lieutenant-colonel of the 45th regiment,

commanding the detachment at Écatèle,* and one section sent by the Officer Commanding Divisional Artillery to co-operate in the defence of Brombos. At 12.15 p.m. this group is ordered to take up positions reconnoitred on the north and on the south of the Grandvilliers-Feuquières road, its task being "to retard as much as possible the debouching of the infantry into the Feuquières region."

The 1st battery takes up a position near the south angle of the Viteaux road, and fires upon infantry and artillery in columns, debouching on the front Broquiers station-Feuquières steeple (12.30 p.m.).

The 2nd battery takes up a position east of La Chaussée and fires upon the infantry north of the Magneux wood (12.25 p.m.). (See Diagram I.)

At 1.30 p.m. the batteries are ordered to cease fire and to shift their positions, the 1st battery towards Sarnois to fire on the ridge north of La Chaussée, and the 2nd to the north-north-east of Zalleux. This movement of the two batteries is concluded by 2.30 and 2 p.m. respectively.

As for the 3rd battery, owing to a mistake in the names, instead of rejoining at Briot it arrives at Sarnois, where it is ordered to remain at the disposal of the officer commanding 1st group.

At 3.30 p.m. the group is ordered to take up a position of readiness at the south exit from Grandvilliers.

Criticism.—The colonel commanding the 4th divisional artillery has obtained permission from the General Officer Commanding to take the 3rd group under his command again. Almost immediately afterwards, he recovers the 2nd group as well; this group had been uselessly handed over to the brigadier of the 7th brigade. These two groups are under the command of the lieutenant-colonel of the 4th divisional artillery, but this latter has to look for instructions to his colonel, who selects his positions and assigns his tasks.

The three groups are then under the command of the colonel. They are distributed along a front of 2 miles, and are acting, purely as infantry batteries, against a zone extending from Magneux wood to La Neuville, or about 4 miles.

The colonel commanding the 4th divisional artillery was not competent to assume the sole direction of the fire of these groups on such a wide front. This is abundantly evident from the results obtained. (See Diagram I.)

The 3rd group did nothing but change position by echelons.

The 2nd group, starting from its position of assembly at 12.10 p.m., got into position at 1 p.m. and had no opportunity of firing till 3.30 p.m.

The 1st group opened fire between 12.30 and 1.30 p.m., then changed position and remained inactive till 3.30 p.m., when it was sent to another part of the battlefield.

At no period was the enemy's artillery engaged, and it would have been able to employ itself unmolested in supporting its infantry. And its infantry would have been but little checked in its advance by the seven batteries of the colonel commanding the 4th divisional artillery,

* This section, owing to a mistake, went to Briot and afterwards to Sarnois, where it was rejoined by the section from Brombos.

since these fired at haphazard, and changed position without concerning themselves about the situation or the requirements of the infantry.

The massing (*centralization*) of the artillery in the hands of the commander of the divisional artillery did not even secure the advantage of good distribution, between the groups, of the zone to be kept under observation by the batteries.

At about 2 p.m. the 7th brigade moves to occupy the position assigned to it. But at this moment the General Officer Commanding the Division, anxious about his left flank, decides to shift his reserves to the south.

He forms two sections :

To the south, the lieutenant-colonel of the 45th regiment, reinforced by the II/67 and one battery, is to check the enveloping movement of the enemy in the neighbourhood of Thieuloy and Écorchevach.

To the north, the 54th regiment, under the orders of the brigadier of the 7th brigade, is to hold the front Briot-Sarinois. The III/67 is to remain at the disposal of the General Officer Commanding the Division. The artillery, less two batteries (one with the cavalry brigade and one with the lieutenant-colonel of the 45th regiment) will remain under the direct command of the colonel commanding the 4th divisional artillery, to co-operate in the defence of the north section.

Criticism.—The General Officer Commanding the Division at last feels the necessity of organizing his defence into sections. But while in the south he acts logically, organizing a temporary tactical unit as laid down in Ministerial Circular of 10/3/1910, in the north he either will not or dare not hand over to the brigadier of the 7th brigade the seven batteries which have to act in this section. He means to take command himself of the northern section and the reserve, and will himself direct the combined operations, namely, those of the south section, the cavalry, and the 8th brigade. This decision is inexplicable, except by the desire to give the colonel commanding the artillery an opportunity of assuming the direct command of troops.

At 3 p.m. the General Officer Commanding 4th Division, better informed as to what is happening on his left, gives a fresh order :—

“ 3 p.m., Sarinois Mill.

“(1) In order to face the attack developed by the two brigades of the enemy near Halloy, the General Officer Commanding now constitutes a detached force under the orders of the brigadier commanding the 7th brigade. This force includes the 7th brigade (less two battalions of the 54th holding the front Sarinois-Les Zaffeux), one group of artillery and the divisional squadron.

“(2) The two battalions of the 54th on the front Sarinois-Les Zaffeux, and the battalion of the 87th entrusted with the task of keeping touch with the 2nd cavalry brigade, will continue to hold in check the direct attack from the west. The defensive action of these three battalions is supported by two groups of the divisional artillery.

"(3) As soon as the 8th brigade (four battalions) has re-formed to the north of Grandvilliers, it will move on to the front Réderie-Sommereux, which it will prepare for defence, holding both these places."

Criticism.—The General Officer Commanding the Division alters the balance of his forces in the two sections. He shifts the brigadier of the 7th brigade from the northern to the southern section, no doubt because he considers that officer's presence at the head of the 54th regiment to be useless, since that regiment has already a colonel.

The northern section remains under the direct orders of the General Officer Commanding the Division. We are not even told who commands the infantry, namely, three battalions taken from two different brigades. Neither do we know who commands the artillery in each section. Finally, the forces of artillery are not in proportion to the infantry forces.

At the same time, the General Officer Commanding sends orders to the cavalry to move towards Thieuloy on the left of the 4th Division. But when it arrives there it finds this place occupied by the Blues, and it retires on Grez and Cempuis, where it covers the division till the end of the day, while continuing to watch the Blue cavalry brigade near Le Hamel.

ATTACK UPON THE SARNOIS-GRANDVILLIERS-BRIOT POSITION.

Blue Force.

12th September.

At about 3 p.m. the Blue Force succeeds in capturing the position Sarcus-La Chaussée-Brombos. Shortly afterwards, the 10th brigade receives the following order from General Officer Commanding the Division :—

"Level Crossing, Feuquières,
3.25 p.m.

"Continue your movement on Grandvilliers, with your right resting on the main road and your left approximately on the Sarcus-Sarnois-Grandvilliers road.

"The 9th brigade is on your right, to the south of the Feuquières-Grandvilliers road.

"The Colonial Brigade is moving by St. Maur-Grandvilliers to envelop the enemy's left.

"Deliver an immediate and vigorous attack."

Criticism.—In this order the General Officer Commanding the Division assigns to the 10th brigade a zone of action and a point to reach. This is all that he can do, since he is ignorant whether Grandvilliers is occupied. This being so, one is unable to understand the words "immediate and vigorous attack." "Immediate" implies that there is an objective ready to attack, and "vigorous" implies the presence of reserves, which do not exist.

It will be seen that this want of precision is reflected in the brigadier's order.

In compliance with the above, the brigadier of the 10th brigade gives the following order:—

“(1) The 9th brigade has received orders to attack in the direction of Granvilliers. The General Officer Commanding the Division directs the 10th brigade to support this attack by a vigorous forward movement

“(2) *Execution.*—The order of march will be as hitherto. General direction, Grandvilliers. The right units (36th regiment) on Les Zalleux, the left units (129th regiment) on Sarnois.

“(3) The flank guard detachment will march by Elencourt on the farm in Quesnoy wood.

“(4) The artillery will follow, by echelons, between the battalion in second line and the battalion in reserve: the general direction of march of the latter battalion will be Wallon-Sarnois Mill.

“(5) Position of Officer Commanding Brigade, 1 mile south of Grasse.”

In compliance with this order, the 1st group of the divisional artillery marches by echelons. At 3.30 p.m. there are two batteries south of Grasse and one battery following the march of the infantry. (See Diagram II.)

Criticism.—The brigadier gives no orders to attack: he merely prescribes the order of march. But he directs that this march is to be “vigorous,” which means nothing at all. He makes his artillery advance by successive echelons, which serves no useful purpose.

In short, the 10th brigade is marching into the unknown, which is the inevitable consequence of the deployment of the Blue Force in a thin line without advanced guard, and without any concentrated striking force.*

As for the advance of the artillery by successive echelons, from ridge to ridge, this is the remains of a habit contracted at Chalons practice camp in the old days, when the artillery manœuvred by itself, and when it had a slow-firing gun layed only by direct vision. At the present day, any echelon of artillery which ventures to advance into the valley, even under the protection of those remaining behind, will certainly be destroyed if the opposite ridge is occupied by hostile artillery. In such cases it is necessary to keep back the whole of our artillery behind the captured ridge until our infantry have carried the next ridge.

In this day's fighting the combat is carried on by the same units, advancing through the supporting points which they have just carried, without being ever relieved by fresh troops.

About 3.45 p.m. the 10th brigade encounters serious resistance in front of Sarnois. At this moment it is deployed on a wide front extending from Elencourt to Les Zalleux. It has only one battalion in reserve and its artillery is not in a position to support it. Accordingly the umpires stop its advance till 4.15 p.m.

* “The Blue Force attacked in a thin line, having nowhere any striking force.”

Remarks by General Michel

About 4 p.m. the 1st group, divisional artillery, comes into action on the crest between Hayon and Wallon: it engages the Red artillery near Sarnois and supports the attack on this village.

At 5 p.m. the 10th brigade penetrates from all sides into Sarnois, which has been evacuated by the Reds.

About 3.30 p.m. the General Officer Commanding the 5th Division gives the following order to the commander of his divisional artillery:—

“The divisional artillery will support the attack of the 9th brigade on the front La Chaussée-Brombos.”

The commander of the divisional artillery gives the following instructions to his lieutenant-colonel:—

“Support the attack of the 9th brigade on the front La Chaussée-Brombos.

“The 2nd group will engage the targets to the south of the railway and will support the infantry advancing on this ground.

“The 3rd group will engage the targets north of the railway.”

Criticism.—The General Officer Commanding the Division is not aware that his troops are in possession of the line La Chaussée-Brombos. He directs that the attack on this front is to be supported by the divisional artillery. It is not clear what divisional artillery he means, since the 1st and 2nd groups have long since been handed over to the brigadiers, and the 3rd group had, immediately before, been employed with the 10th brigade, though it had not been handed over to the brigadier.

The commander of the divisional artillery takes this order to apply to the 2nd and 3rd groups. He divides the ground to be watched between them, but he does not instruct them as to the objectives of the attack, since he does not know them himself. The lieutenant-colonel should have taken command of the two groups and have placed himself under the orders of the brigadier of the 9th brigade, who would have told him what to do. Once again we have the two arms conducting their battles separately.

The 3rd group of the divisional artillery has allotted to it, in its target zone, the village of La Chaussée, and has orders to fire on it. Most fortunately, the group commander meets the colonel of the 39th regiment, which is attacking the Viteaux wood. This task seems to him more definite than that which had been assigned to him, and he accordingly places himself at the disposal of the colonel, and, from a position near the railway and south-west of La Chaussée, he supports the attack of the 39th regiment on Viteaux wood. Later on he supports the attack on the enclosures west of Briot, which the 74th is then attacking from the south and south-west, supported by the 2nd group. (See Diagram II.)

Criticism.—Thus the error of the divisional commander was repaired by the initiative of a group commander, who was thoroughly penetrated with the knowledge that it is the infantry which conducts the combat.

omission of the divisional artillery commander would have led to the group firing upon their own troops.

This is not the first occasion upon which the direct communication between attacking units, prescribed by Chapter V, para. 38, of the Artillery Regulations, and of which the object is to define the point to be struck and the moment of striking, has been the means of overcoming the misunderstanding as to the objective of the attack, which so often occurs at manœuvres.

At 5 p.m. Briot falls into the hands of the 9th brigade. On the right, the Officer Commanding the Colonial Brigade, leaving the 21st regiment at St. Maur and Écorchevache, had moved forward the 23rd regiment to Écatèle, which place it entered at 4 p.m. without opposition; the defending Red battalion had retired on Thieuloy and Grez before the advance of the 9th brigade. At 5 p.m. the 23rd regiment enters Briot, following the 74th regiment.

Criticism.—This overlapping and mixing of the 9th and the Colonial Brigades would have been avoided if the commander of the Blue Force had delimited the zones of action of the 5th Division and the Colonial Brigade. Failing this precaution, the commanders of the units in question should have settled this point between themselves.

The artillery of the Colonial Brigade did not intervene at all during this part of the action. However, one group, in position south-east of St. Maur, was about to fire upon the Red columns retreating from Briot on Grandvilliers when the manœuvres ceased for the day.

On the extreme right the 3rd cavalry brigade, after harassing the retreat of the defenders of St. Maur and Écatèle, remained in observation opposite to the 2nd cavalry brigade near Grez.

Red Force.

About 4 p.m. the General Officer Commanding the 4th Division, already contemplating a retreat, further modifies the organization of the north section. He places the following units under the command of the colonel commanding the 54th regiment: the two battalions of the 54th who are holding the line Les Zalleux-Sarnois, and the 2nd group of the divisional artillery (two batteries) which is in position near Sarnois Mill and is firing upon the Blue infantry issuing from Hayon and from Viteaux wood. (See Diagram II.)

As for the 3rd group of the divisional artillery, the General Officer Commanding the Division withdraws it and hands it over to the brigadier of the 8th brigade, who is ordered to prepare the position of retirement Sommereux-Réderie for defence. At 5 p.m. this group is in action $1\frac{1}{2}$ miles south-west of Dargies, watching the zone Griesnoy farm-enclosures to west-northern outskirts of Sarnois.

At the same hour, by order of the colonel of the 54th, the 2nd group retires on Réderie, in order to take up a position commanding the exits

from Grandvilliers and Sarnois while the two battalions of the 54th are retiring on Dameraucourt.

At 5 p.m., the moment when Sarnois and Briot are taken by the Blues, the General Officer Commanding the Division gives the following order:—

“The tactical unit under the command of the brigadier of the 7th brigade will retreat in the general direction of Laverrière-Réderie-Sommereux.

“The tactical unit under the command of the colonel of the 54th will retreat towards Réderie.

“This movement to be executed at once.”

We have just seen that the colonel of the 54th, anticipating this order, had ordered a retreat on Dameraucourt.

As for the brigadier of the 7th brigade, it will be remembered that he had been ordered to check the enemy's offensive movement near Halloy, with the 67th, one battalion of the 54th and the 1st group of the divisional artillery. At 4 p.m. he occupies Briot with the II/67, Moulin de Pierre with the III/67, Halloy with the III/54, and recalls the I/67, which has evacuated the woods at Closeaux and Thieuloy before the advance of the Colonial Brigade.

The batteries of the 1st group come into action successively: the 1st battery south-west of the southern exit from Halloy, where, at 4.10 p.m., it opens fire on the Blue infantry issuing from Closeaux wood; the 2nd battery, at 4.30 p.m., 550 yards north of Moulin de Pierre, watching Thieuloy and the ridge to the east; the 3rd battery went, by mistake, to Sarnois, instead of rejoining its group at Briot: it then proceeded to Cempuis, where it fell in with the Red cavalry brigade. (See Diagram II.)

About 5 p.m. the II/67 is forced to abandon Briot and to retire on Sommereux under the protection of III/54. The remainder of the Southern unit shortly afterwards retires, as ordered, to assemble behind the front occupied by the 8th brigade. The movement is effected without disturbance by the enemy, who is himself preparing to bivouac.

This concludes the day's manoeuvres.

Criticism.—On the defensive, the batteries to whom the distant defence is assigned will not usually be the same at those entrusted with the close defence.

The former, in well-concealed positions, will act both against infantry and artillery, especially the latter (para. 45, sub-para. 2, Drill Regulations).

The latter, concealed as far as possible by lateral screens, will undertake the flanking of dead angles, and will act in close combination with the infantry (para. 46, sub-paras. 6 and 7).

Now during the whole of the 12th September the Red artillery participated chiefly in the distant defence, and the close defence was generally forgotten.

Moreover, as shown by Diagrams I and II, the artillery of the distant defence was employed almost exclusively in firing on infantry. Contrary to the recommendations of para. 45 quoted above, it neglected the Blue artillery, which would have been able to apply itself, unmolested, to the support of the attacks of its infantry.

On the other side, the Blue artillery was employed almost entirely as counter-batteries engaging the artillery. It failed badly to support the attacks of its infantry. At 1 p.m. (see Diagram I) the 3rd group was the only one on the Blue side which had two batteries employed as infantry batteries. And these two were firing on La Chaussée and to the south, whereas the objectives of the attack were point 213 and Brombos.

Thus on both sides the procedure was the opposite of what it should have been. Moreover, the zones of observation overlapped. The artillery commanders did not do well.

The employment of artillery in the retreat was still more misunderstood. In a combat such as a rear-guard action one of the duties of the artillery is to enable the infantry to disengage itself from the fight. The units entrusted with this task should be the last to retire. Para. 47, sub-para. 4, even foresees the case when the artillery is obliged to continue the combat until it is unable to retire. The actual procedure was the opposite of this. Thus at 4 p.m. the General Officer Commanding the 4th Division withdrew the 3rd group from the command of the brigadier commanding the first line of defence in order to hand it over to the officer preparing the position of retirement. And in the northern section the colonel commanding sent back the whole of his artillery to the position of retirement. It would seem that the infantry was entrusted with the task of enabling the artillery to disengage itself.

Briefly, in a retiring action the artillery has a three-fold duty :—

- (a) To co-operate in the distant defence.
- (b) To co-operate in the close defence.
- (c) To assist the infantry to disengage.

The Red artillery only carried out the first of these duties, and that very imperfectly, since it was employed almost exclusively as infantry batteries.

It hardly attempted the second duty.

It completely neglected the third.

13TH SEPTEMBER.

(Diagram III.)

On the morning of the 13th the units which were engaged on the previous day are in contact. To the north, the 4th Division of the Red Force; to the south, the 5th Division and the Colonial Brigade of the Blue Force.

The General Officer Commanding the 4th Division has received orders to wait, before taking the offensive, till the 3rd Division, coming from the Conty district, has begun to deploy on his left. Interpreting this order too literally, he assumes a defensive attitude and loses touch with the enemy. He should, without engaging himself too deeply, have delivered attacks on a scale sufficient to locate the enemy.*

* "On both sides, the battle was confused, because both manœuvred before locating the enemy."—Remarks by General Michel, p. 74.

The 5th Division, under the protection of its outposts (which have been reinforced) is about to concentrate with the intention of inclining to the east. Hence when the 4th Division advances it will find nothing in front of it. The 4th Division will therefore have no fighting on the 13th. There is therefore no reason why I should adhere to the method which I adopted for the 12th. To avoid the necessity of returning to this point, I will first consider the dispositions made by the 4th Division. I will then proceed to the engagement between the 3rd Division (Red) and the 3rd Army Corps (Blue).

4th Division.—The intention of the General Officer Commanding the Division is to hold the front Dameraucourt-Réderie-Sommereux with the smallest forces necessary for the purpose, and to keep the greatest possible number of troops fresh for the general offensive which is to be assumed on the arrival of the 3rd Division.

The 8th brigade, reinforced by the 3rd group of the divisional artillery, and a troop of the divisional squadron, is to hold the defensive front.

A first temporary tactical unit (the 67th and the 2nd group), under the command of the brigadier of the 9th brigade, assembles on the plateau Offoy-Dargies, at the head of the ravine to the north of point 184.

A second temporary tactical unit (the 54th and the 1st group) under the command of the colonel of the 54th, assembles to the south of and close to Lahaye.

The divisional commander is at the east exit from Dargies on the Offoy road.

Criticism.—The General Officer Commanding the Division allots the 3rd group of his divisional artillery to the 8th brigade, which is entrusted with the defence; he places one group alongside each of the two regiments in reserve. Thus posted, the 2nd and 1st groups are only under the orders of the commanders of the special tactical units so far as discipline is concerned; these commanders will be obliged to keep them with their commands but have no authority to engage them. It would have been better if, in his order, the General Officer Commanding had made this point clear by stating that the 1st and 2nd groups remained at his own disposal.

Later on, the General Officer Commanding the Division hands over one of these groups to the 8th brigade. It would have been better to allot this group to him at the outset. In fact, the 3rd group was utterly insufficient for the defence of a front of $3\frac{1}{2}$ miles. The brigadier of the 8th brigade, having expended the whole of the 3rd group in infantry batteries, had to ask for another group to use as counter-batteries. Thus it was found very difficult to direct the fire of the 3rd group.

Artillery is far less subject to wastage than infantry. As a general principle, it should, at the outset, be allotted to a force in a larger proportion than infantry, especially on the defensive. But it does not follow that the whole of the artillery should be engaged.

The brigadier of the 8th brigade divides his front into three sections :—

- (a) Right section (one and a-half battalions 87th, one battalion 45th), under the command of the colonel of the 87th, holds the front between the Evoissons brook and the Grandvilliers-Poix road.
- (b) Centre section (one battalion 45th) from the above road (exclusive) to the Dargies-Grandvilliers road (inclusive). Task, to act in tactical connection with the troops of the adjoining sections.
- (c) Left section (one battalion 45th, one battalion 87th), under the command of the colonel of the 45th, from the Grandvilliers-Dargies road to the Sommereux-Campuis road (inclusive).

The supporting points Dameraucourt, Réderie, Briqueterie and Sommereux are prepared for defence.

The 3rd group, divisional artillery, remains under the orders of its own commander, in order, as the brigadier states in his orders of the evening of the 12th "to co-operate, by its concerted action, in the defence of the three sections, in accordance with the intentions of the brigadier and the requirements of the moment."

On the morning of the 13th the brigadier orders the group commander "to distribute his artillery along the front Dameraucourt-Sommereux, so as to search all the valleys running south-west and north-east in the direction of Sarnois and Grandvilliers."

The group commander posts the 3rd group as follows:—One section north-west of Réderie, enfilading the Sarnois ravine; one section north of the Réderie-Dameraucourt road, enfilading the ravine towards Quesnoy wood farm and commanding the road from Sarnois to this farm. The commander of this battery to place himself in tactical connection with the colonel of the 87th, commanding the right section of the defence.

One section 1,000 yards east of La Briqueterie.

One section 1,000 yards south-east of Dargies steeple.

These two sections are to fire on the valleys leading from Sarnois and Grandvilliers towards Dargies. The battery commander to be in tactical connection with the commander of the centre section of the defence.

One battery north-west of Sommereux, west of the road, to fire on the wide valley between Grandvilliers and Sommereux. The battery commander to be in communication with the colonel of the 45th, commanding the left section of the defence.

Criticism.—Since the brigadier organized the defence into three sections, he should have divided his artillery between the commanders of these sections, keeping a reserve for himself. This would have been easier if he had had both the 1st and 3rd groups from the outset. Each commander of a defensive section would have detailed a certain number of guns for the close defence, while the other guns, forming batteries

serving a double purpose,* would have undertaken the distant defence. The zones of observation of the latter batteries would have been assigned to them by the lieutenant-colonel of the divisional artillery, placed at the disposal of the brigadier to command his artillery.

The brigadier justifies this centralization of command by the desire to secure the "concerted action" of the artillery in the defence of the three sections. This phrase is not clear. A force of artillery co-operates very badly in the defence of a section if it obeys the orders of an officer who is independent of the commander of the section. Possibly the brigadier hoped to ensure that the whole group should intervene, alternately and instantaneously, for the benefit of different sections. This would oblige the group commander to place himself in communication with the commander of all three sections of the defence. It amounted to inciting him to choose his targets on his own account, thus encouraging a tendency which, on the contrary, requires to be checked. And finally, this was to require of the artillery a procedure which is impossible to carry out under fire.

The order of the 13th, directing the group to be distributed along the whole front, renders centralization of command still more difficult. Fortunately the group commander repaired the error by directing his batteries to place themselves in tactical connection with the commanders of the sections of the defence. But all the guns were used up as infantry batteries, and none remained to engage the enemy's artillery.

I have my doubts as to whether the group commander himself reconnoitred the battery positions on this front of $3\frac{1}{2}$ miles. It was not his business to do so, any more than it was the business of the brigadier to designate the valleys to be searched by the artillery. It is probable that all these instructions were given by the map.

At 7.30 a.m. the brigadier having been informed that the whole of the 3rd group had been expended in infantry batteries, the General Officer Commanding the Division hands over the 1st group to him telling him that "he may employ them as counter-batteries."

Criticism.—The General Officer Commanding need not have told the brigadier "that he might employ the 1st group as counter-batteries." The brigadier gave his reasons for asking for a fresh group, in order to enable his General Officer Commanding to form his decision on the facts. But it was for the brigadier to make any use of these groups which he thought fit.

The lieutenant-colonel is ordered by the commander of the divisional artillery to take command of the 1st and 3rd groups. But the commander of the 1st group reports himself to the brigadier of the 8th brigade, who orders him to post his guns as counter-batteries west of Dargies.

* "*A deux fins*"—that is, available both as infantry batteries and as counter-batteries.—Tr.

Criticism.—The "command" assigned to the lieutenant-colonel is somewhat vague. He can give no orders to the batteries of the 3rd group, who are acting in tactical connection with the commanders of sections of the defence; and the 1st group has received its orders direct. The only thing for him to do is to attach himself to the staff of the brigadier, in order to prepare for the employment of the artillery in the counter-attack if occasion arises.

In the meantime, the brigadier of the 7th brigade, commanding the temporary tactical unit (*groupe de manœuvre*) north of point 184, orders the commander of the 2nd group of the divisional artillery to reconnoitre battery positions suitable for watching the zone Beaudeduit-Cempuis. These are not to be occupied till the enemy appears.

Criticism.—The 67th and the 2nd group constitute a temporary tactical unit at the disposal of the General Officer Commanding the Division, under the orders of the brigadier of the 7th brigade for discipline alone. The brigadier had no right to give orders to the group concerning positions to be occupied. But it was the duty of the group commander to carry out, on his own initiative, any reconnaissances which he might consider necessary.

At 8.25 a.m. the General Officer Commanding the Division orders the 7th brigade to concentrate in the direction of Dargies with a view to a subsequent movement on Sarnois and Grandvilliers. This movement is to be supported, from the right rear, by two battalions of the 8th brigade, who are to move on Quesnoy wood farm; and, from the left rear, by two battalions marching on Halloy. The two remaining reserve battalions of the division (afterwards detailed as Army Corps reserve) are to move on Dargies.

The three groups of the divisional artillery, under the orders of the commander of the divisional artillery, are to support this offensive movement. But the 2nd group of the divisional artillery is to remain till further orders, at point 184, to support by its fire the offensive march of the 3rd Division towards Beaudeduit and Sommereux.

Criticism.—It is difficult to understand this order that "the three groups are to support this offensive movement." It is the duty of all divisional artillery to support the offensive of its division. But how is this support to be given? This cannot be known till the objectives of the attack have been defined.

Still more obscure is the order to the 2nd group to support the march of the 3rd Division. The group knows nothing of the 3rd Division and is unable to place itself in tactical connection with it. This is a grave infraction of Ministerial Circular of 10th March, 1910.

It is fortunate that this order was never carried out, for if the 2nd group had remained at point 184 it would have had none but friendly troops in its field of fire.

At 9.30 a.m. the 9th brigade has the 54th regiment concentrated in the ravine west of and close to Dargies, and the 67th in the ravine

between Dargies and Laverrière, south of Dargies. When the word to advance is given, two battalions of the 54th are to attack Sarnois, and two battalions of the 67th are to attack Grandvilliers; the two remaining battalions of the brigade are to follow in reserve by the ravine running north-east and south-west between the two villages.

At 10.5 a.m. the commander of the divisional artillery orders the 1st and 2nd groups to make their preparations to support, respectively, if necessary: the 2nd group the attack of the 67th on Grandvilliers, and the 1st group that of the 54th on Sarnois. The two groups are to place themselves in tactical connection with the colonels of these regiments.

The 3rd group is ordered by the commander of the divisional artillery to assemble south of La Briqueterie.

Criticism.—The artillery is divided between the two attacks before these have developed, and before it is known whether its services will be required. The order given to the 3rd group is equally premature; this group should not have been relieved of its task till the 9th brigade had taken the offensive. In the meantime it should have remained at the disposal of the brigadier of the 8th brigade, for the defence of the front Dameraucourt-Sommereux.

At 10.30 a.m. the 2nd group receives the following order from the commander of the divisional artillery:—

“Come into action in front of Dargies between the Grandvilliers road and Sommereux, to fire on the outskirts of Grandvilliers and to engage any artillery which may appear on the crests to the left of Grandvilliers.”

The group comes into action accordingly, one battery at point 186 north of Sommereux, one on the eastern outskirts of the village (these two are infantry batteries acting in tactical connection with the 67th) and one as counter-battery on the north slopes of the ravine.

Criticism.—This order is incomprehensible. The 67th regiment is still at the place of assembly south of Dargies. How is it to communicate with the 2nd group, with which it is ordered to act in tactical connection?

At 11.5 a.m. the commander of the divisional artillery orders the 1st group to remain in position as a counter-battery south-west of Dargies, while the 3rd group will assemble in the ravine two-thirds of a mile east of La Briqueterie and will support the attack of the 54th on Sarnois. The commander of the 3rd group is to place himself in communication with the colonel of the 54th, and with the brigadier of the 7th brigade.

According to the returns sent in by battery commanders, the 3rd group comes into action near La Briqueterie.

Criticism.—The 54th is still at the place of assembly. At 10.5 a.m. it had been ordered to act in tactical connection with the 1st group;

now it is ordered to act with the 3rd. All these orders are premature.

Moreover, it is difficult to understand this order to establish double tactical connection, with the colonel of the 54th and with the brigadier.

At 11.30 a.m. the colonel commanding the divisional artillery orders his lieutenant-colonel to proceed to the centre, to the 3rd group, to direct the combined action of the artillery.

Criticism.—There is no combined action of the artillery to direct, since the 2nd group is to act in concert with the 67th regiment, the 3rd is to act with the 54th, and the 1st is to remain in position as a counter-battery.

At 12.40 p.m. the General Officer Commanding the 4th Division, hearing the guns of the 3rd Division, gives orders to take the offensive. The division advances, but encounters no one.

At 1.35 p.m. the General Officer Commanding orders the 7th brigade, if Sarnois and Grandvilliers are not occupied, to seize Halloy and Briot with the 67th, to occupy these villages, facing south, and to withdraw the 54th to the south in the direction of the wood of Hêtres.

The commander of the divisional artillery immediately gives the following orders :—

“Advance the 3rd group, passing in front of Dargies, to the ravine west of Sommereux, between Sommereux and Grandvilliers. This group is to pass under the command of the brigadier of the 8th brigade, and is to report to him for orders. The brigadier has orders to join hands with the 3rd Division towards Sommereux.”

Criticism.—Nothing is yet known of the enemy, and yet the groups are already allotted. And how? Two groups to the brigadier of the 8th brigade, who has only two battalions under his command, and only one to the brigadier of the 7th brigade, who has six. The 2nd group is transferred from the 7th to the 8th brigade. This is futile and feverish activity, resulting from losing touch with the enemy.

After some further shifting of batteries and groups, which presents no interest from the artillery point of view, the day's manoeuvres terminate without the 4th Division coming into contact with the enemy.

THE THIRD DIVISION, UP TO ITS ISSUE FROM GREZ.

At 7 a.m. the 3rd Division debouches from the neighbourhood of Conty in two columns, each preceded by an advanced guard.*

* *Note.*—“A single advanced guard would have been preferable.”—Remarks by General Michel.

The right column, under the orders of the brigadier of the 6th brigade, has the 1st group with the advanced guard, and the 2nd with the main body. Route, Fleury-cross roads north-west of Belleuse-Beaudeau.

The left column, under the orders of the brigadier of the 5th brigade, has one battery of the 3rd group with the advanced guard, the two others with the main body. Route, Conty-Belleuse church-Lavequerie-Le Mesnil-Conteville.

The General Officer Commanding the Division marches at the head of the right column.

At 8.50 a.m. the General Officer Commanding gives the following order:—

“One brigade of infantry was seen at 6.30 a.m. marching from Feuquières towards Brombos. Infantry outposts hold point 213 two-thirds of a mile north-west of Broquiers, and Agnières.

“The advanced guards of the two infantry brigades will continue the advance, the 6th moving on Cempuis and the 5th on Le Mesnil-Conteville, Conteville and Grez, deploying from column of route into formations suitable for avoiding the enemy's artillery fire.

“A group of the 4th Division has been posted on the Dargies plateau near Sommereux to sweep the plateau west of Le Mesnil-Conteville if required.

“The main bodies of the columns will continue their march in column of route.

“If the enemy is encountered, the two advanced guards will engage him vigorously.”

At 9.25 a.m. the commander of the 1st group, divisional artillery, who commanded the advanced guard group of the right column, brought his 3rd battery into action $1\frac{1}{2}$ miles west of Le Mesnil, directing it to fire, in order to support the advance of the advanced guard, upon any target which might present itself in the zone Le Hamel-Rieux.

At 9.25 a.m. he brought up his other two batteries and brought the 2nd into action 1 mile north-east of Cempuis, in observation in the direction of Grez, in order to engage any artillery which may appear near point 189. The 1st battery remained limbered up.

At 10.10 a.m. he ordered the 3rd battery to rejoin the 1st.

Criticism.—The commander of the 1st group is in too great a hurry. His intention appears to be to support the advance of the infantry of the advanced guard into the open ground Beaudeau-Cempuis, the infantry being then in the act of advancing across the fields in open formation. Now, no enemy has been reported; the 3rd Division has, in front of it, its own 2nd cavalry brigade and its own divisional squadron. When the head of the advanced guard issues from Beaudeau, the divisional squadron has at least reached the crest north-east of Cempuis, and it has not reported anything. When the advanced guard is about to reach Cempuis the patrols of the squadron must be near Grez.

It would have sufficed to march the 1st group in line of sub-section columns at wide intervals, at a certain distance behind the infantry, and to reconnoitre the battery positions which it might be necessary to take up.

At 10.15 a.m. the brigadier of the 6th brigade orders the lieutenant-colonel of the divisional artillery, who is in command of the two groups of the right column, to leave a single battery with the advanced guard, the other two to march at the head of the main body.

The captain of the 2nd battery, which is detailed to remain with the advanced guard, gives the following order to his lieutenant :—

"I am placed under the command of the commander of the advanced guard, the colonel of the 72nd. I am about to accompany him forward. Follow me with the battery, conforming to the movements of the infantry. Keep up communication with me."

At 10.25 a.m. this battery comes into action two-thirds of a mile west of the church of Petit-Cempuis, in observation towards Grez.

Criticism.—The decision of the brigadier to leave only one battery with the advanced guard was arrived at in consequence of a conversation between the General Officer Commanding the Division and the Chief Umpire, at La Chapelle St. Martin.

It would have been preferable to leave the commander of the 2nd battery with his battery, and to detail the group commander as commander of the artillery of the advanced group. This senior officer would then have been better informed as to the situation, when the moment arrived to engage the batteries with the main body.

At 11 a.m. the heads of the 5th and 6th brigade columns reach Grez simultaneously. The village was unoccupied except by a Colonial company.

THE THIRD ARMY CORPS UP TO THE ATTACK ON GREZ.

On the morning of the 13th the 3rd Army Corps takes up a defensive position on the front La Chaussée, Écatèle (5th Division), Écatèle, Gaudechart (Colonial Brigade).* The 6th Division reaches the district Morvillers, Marseille-le-Petit, Polhay, Frétois.

At 9.15 a.m. the commander of the 3rd Army Corps, whose intention is still to manoeuvre with his right, orders :—

The Colonial Brigade, with the 1st and 3rd groups of the 6th divisional artillery, to move on Hétomesnil, ready to defend the front La Houssaye-Grez exclusive.

The 5th Division, to concentrate its main body in the district Gaudechart, St. Mesnil, and to the south, ready to defend the front Grez-Thieuloy-Écatèle.

The 6th Division to move into the district Crèvecœur-le-Grand, Lihus, Rotbois, Rotangy.

5th Division.—The 10th brigade, with the 1st group of the divisional artillery, to assemble south of the La Creuse-St. Martin road and to hold the front Hautbos-Briot la Grange inclusive. The artillery group takes up a position of readiness south of point 199. The outpost battalions are to retire eventually on La Chaussée and thence to move to the south-west of St. Maur.

* *Note.*—The examination of these defensive positions present no interest from an artillery point of view.

The 9th brigade, with the 2nd group, is to hold the front Briot la Grange (exclusive)-Thieuloy-Grez (inclusive). The 79th regiment move from Brombos on Briot la Grange, Thieuloy and Grez, and is to hold the front Grez (inclusive)-Thieuloy (exclusive). It is followed by the 39th, which is to hold the front Thieuloy (inclusive)-Briot la Grange. A battalion of each regiment is in brigade reserve at point 203, with the 2nd group of the divisional artillery.

The two batteries of the 3rd group of the divisional artillery, which are at the disposal of the General Officer Commanding the Division, are moved to a point south of point 203.*

Colonial Brigade.—The 21st regiment moves on Hétomesnil by Prévillers. The 23rd moves by Gaudechart, and is to occupy the front Hétomesnil-point 189.

The reserve (one battalion of the 21st and one of the 29th), with the 1st and 3rd groups of the 6th divisional artillery, moves by Fontaine Lavaganne and Prévillers on Owillers.

6th Division.—The 6th Division moves in two columns towards the district Crèvecœur-le-Grand, Lihus, Rothois, Rotangy. The left column, consisting of the 11th brigade and one battery, by Marseille-le-Petit; the right column, consisting of the 12th brigade and one battery, by Polhay, Achy, La Neuville-sur-Oudeuille, Crèvecœur.

COMBATS OF THE THIRD DIVISION, FIFTH DIVISION AND COLONIAL BRIGADE AROUND GREZ.

Red Force.

Third Division.—The General Officer Commanding the Division knows that at 9.30 a.m. a force of colonial infantry was entrenched at Gaudechart.

About 11.30 a.m. the advanced guards issue from Grez, that of the 6th brigade marching on Moulin de Pierre, that of the 5th on Gaudechart station.

At 11.40 a.m. the advanced guard of the 6th brigade encounters the 23rd colonial infantry issuing from Thieuloy. The advanced guard battery comes into action at $1\frac{1}{2}$ miles from Moulin de Pierre to support this attack. At noon it opens fire on lines of infantry in front of Thieuloy.

The advanced guard presses the enemy back and lines the railway. The General Officer Commanding reinforces it with three battalions and a battery. The commander of the 1st group takes command of the two batteries and gives them the following orders:—

To the commander of the 2nd battery:

“The General Officer Commanding is attacking the enclosures on the outskirts of Thieuloy with two battalions, on the south of the Moulin de Pierre-Thieuloy road. Place yourself in tactical connection with the colonel of the 72nd.”

* *Note.*—The third battery forms part of a detachment which was sent, earlier in the morning, to St. Thibault.

To the commander of the 1st battery :

"The III/72 is attacking the enclosures on the outskirts of Thieuloy on the north of the Moulin de Pierre-Thieuloy road. Take your orders from its commander."

Criticism.—One infantry battery, the 2nd, was quite enough to support the attack on Thieuloy. The group commander should have used the 1st battery as a counter-battery, ready to open fire on the enemy's artillery. As it was, he uses it as a second infantry battery, which he places under the orders of one of the battalion commanders.

To be consistent, he should have placed the 2nd battery under the orders of the other battalion commander. This would have been a bad solution, since there was only one attack; therefore, there should have been only one officer in charge of the attack, only one commander of the two arms. This solution would have been comprehensible, whereas that actually adopted is not; the 2nd battery is placed under the colonel who commands the two battalions. The two batteries are not treated alike.

During this time, two battalions of the 5th brigade are moving on Gaudechart. The commander of the advanced guard gives the following order to the 2nd battery of the 3rd group :—

"Support the attack of the infantry on Gaudechart."

The battery comes into action south of Grez, in the angle of the Grez and Grez-Gaudechart roads, point 182. It opens fire on the wood near Gaudechart village about 12.30 p.m.

Criticism.—The order does not say which is the infantry of which the 2nd battery is to support the attack. The result of this omission is that it is not in organized tactical connection with the attack.

At 1 p.m. the General Officer Commanding the 5th brigade orders the commander of the 3rd group to "bring his two batteries to the south of Grez to support the attack on Gaudechart."

The group commander assigns the following targets to them :—

"Artillery in position on the height between Prévillers and Ovil-
lers. Destroy the matériel."

"Colonial Brigade issuing from the north of Prévillers."

The records of fire of the two batteries are as follows :—

1st Battery.—1.20 p.m. Fire on artillery in position on the height between Prévillers and Ovil-
lers.

1.25. Infantry skirmishers to the left of the guns just fired on.

1.35. Infantry in close formation descending along the north-east side of the wood to the north of Prévillers.

1.45. Same infantry deployed in skirmishing order east of point 189.

1.55. An artillery group which comes out into the open near Hétoimesnil.

3rd Battery.—1.20 p.m. One gun is pointed to the south on the infantry retiring west of Gaudechart.

1.20. Three guns on the artillery near Ovil-
liers.

1.45. One gun on the infantry west of Gaudechart.

1.55. Battery fire on infantry massed near Ovil-
liers.

Criticism.—The commander of the 3rd group has received orders to bring up his two batteries to support the attack on Gaudechart, yet he assigns to them as a target the Colonial Brigade which is issuing to the north of Préwillers.

It is true that the 2nd battery was already firing on Gaudechart, but the group commander did not know it. In fact there is no trace, either in the orders or in the records, of any communication on this subject. We shall see later that when the group commander is ordered to retire, he does not transmit this order to the 2nd battery, which he looks upon as no longer under his orders.

I have reproduced above the records of fire of the 1st and 3rd batteries, in order to illustrate the consequence of a badly-worded order.

Instead of ordering one of his batteries to engage the artillery which is seen to the north of Préwillers and posting the other battery so as to be available either as an infantry battery or as a counter-battery (*batterie à deux fins*), he assigns to both of them the Colonial Brigade and the enemy's artillery. He thus leaves them both free to choose their own targets anywhere in the zone between Owillers and Préwillers. They even abuse this liberty, since they fire at targets beyond the limits assigned to them. What effect could they obtain with these series at targets which change at every moment? Even if the series are effective, what is the use of them if they do not serve the purpose in view? Moreover, these changes of target would have been impossible under fire.

Whenever the gunner is merely given a zone to watch, with liberty to choose his target as he pleases, instead of giving him a target, the point of the target to fire at, and the moment at which he is to open fire, he will create hopeless confusion in the distribution of fire, because he will yield to the very natural temptation to utilize the "mobility of fire" which constitutes one of the peculiar features of his weapon.

About 2 p.m. the brigadier of the 5th brigade, learning that considerable hostile forces are present in the Owillers-Hétomesnil district, orders the commander of the 3rd group of the divisional artillery to retire his batteries in succession upon Le Hamel.

The group commander orders the 1st and 3rd batteries "to shift their batteries successively to the H of Le Hamel and to fire upon the artillery." He forgets the 2nd battery.

The 1st battery opens fire at 2.35 p.m. on artillery north of Préwillers, the 2nd at 2.45 on artillery north of Hétomesnil.

At 2.15 p.m. the General Officer Commanding the 3rd Division gives the following order:—

"I. The colonial infantry is extending its front towards Hétomesnil.—The Director of Manœuvres has decided that the 3rd Division is to move to the north of the Grandvilliers-Hétomesnil road.

"II. The 6th brigade will break off the combat and will retire upon Cempuis and Le Hamel. If Grez is no longer occupied, the 6th brigade

will hold this place temporarily to cover the retirement of the 5th brigade.

"The 5th brigade will retire towards Rieux.

"III. The four batteries in reserve east of Cempuis will move to Le Hamel to assist in covering the retirement of the 5th brigade."

Criticism.—This order does not mention that the four reserve batteries are placed at the disposal of the brigadier of the 5th brigade. But the colonel commanding the divisional artillery had given orders to this effect to his lieutenant-colonel in an order issued at 1.45 p.m. Therefore these two commanding officers are not working together.

Blue Force.

Colonial Brigade.—About noon, one battalion of the 23rd colonial regiment is holding Thieuloy. The other is moving on Grez, which it is ordered to capture. Two battalions of the 21st colonial regiment are moving on Hétomesnil. The brigade reserve is south of Prévillers.

Criticism.—The brigadier of the Colonial Brigade has received from the commander of the 3rd Army Corps orders to defend the front La Houssaye-Grez (exclusive). He should not therefore have directed the 23rd on Grez. This infraction of his orders will have serious consequences, since Grez will be attacked by troops under two different commanders.

At 12.50 p.m. the 1st and 3rd groups of the 6th divisional artillery are at a place of assembly on the road south of point 201 (north of Prévillers). The colonel commanding the 6th divisional artillery goes out to reconnoitre with the commander of the 1st group, and at 1.5 p.m. gives him the following order:—

"Bring your group into position at point 201. Your task is to support the advance of the 23rd Colonial on Hétomesnil."

Criticism.—The commander of the divisional artillery should have remained with the brigadier. No one had asked him to support the march of the infantry towards Hétomesnil. Moreover, he states that it is the 23rd which is marching on this place, whereas it is the 21st.

At 1.10 p.m., before the 1st group is yet in position, the commander of the 6th divisional artillery perceives strong columns of infantry marching towards Grez from the north-east. This was the main body of the 5th brigade. He orders the 1st group to open fire on these columns.

The group commander allots zones to be watched by the batteries, and assigns their tasks, namely, to prevent the enemy from issuing from the woods of Le Hamel and Grez and from coming over the crests to the east of these woods.

Records of Firing. 1st Battery.—1.15 p.m. Fire on limbers behind cover, but plainly visible from the position south-west of Oviviers. Range, 1,350 yards.

1.20. Change of target. A large column of infantry marching from the east on Grez. 2,600 yards.

1.30. The infantry disappears behind a fold in the ground.

1.40. The column of infantry again visible west of Grez. 2,300 yards.

1.50. Change of target. A battery, flashes visible, in front of Grez.

2 p.m. Fire on the column of infantry marching towards Thieuloy. 2,200 yards.

2.5. The column of infantry retires towards Grez.

2.35. Change of target. A battery passes at a trot along the road to Grez.

2.50. Fire on infantry in the plain south of Grez.

3.5. Fire on the edge of the wood south-west of Grez to support the attack of the colonial infantry.

2nd Battery.—1.20 p.m. Open fire on a convoy on the Hamel-Hétomesnil road. 3,200-3,400.

1.40. Fire on infantry in mass on the edge of the woods between Grez and Le Hamel.

2.5. Fire on a column of cavalry (one brigade) marching along the road from Hétomesnil to Hamel and afterwards from Rieux to Grez. Range, 3,300-3,500 yards.

2.35. Fire on artillery, flashes visible, at the edge of the wood south-east of Le Hamel. Range, 3,500-4,000.

3rd Battery.—1.17 p.m. Fire at troops in close formation towards Rieux.

1.32. One gun turned on a troop of cavalry.

The fire on the troops towards Rieux is then resumed.

2.15. One salvo at cavalry. Several regiments are defiling in column along a road. Fire continued till 2.25 p.m.

2.30. At artillery visible in the direction of Le Hamel.

3.7. At the same artillery limbering up.

Criticism.—The battery records of firing, which are reproduced literally above, show, even better than those of the 3rd group already given, the results of deploying a group without any useful object, of giving both batteries the same zone to watch, and of allowing them to choose their own targets.

Here we have a group whose principal task (which, as it happens, was improvised by the artillery commander) was to support the advance of the 21st Colonial on Hétomesnil. In the course of the march of approach, the infantry discover that the enemy is not holding Hétomesnil but the woods of Le Hamel and Grez, and the crests to the east of them. The artillery commander perceives some movements of troops near Grez. Without asking for orders from his chief, without knowing anything of the direction in which the enemy is marching, without asking himself whether the fresh task which he is about to improvise is such as to justify the bringing of a group into action, or whether the position reconnoitred for the old task is suitable for the new one, he brings his artillery into action at point 201 and gives the batteries a zone to watch.

Eighteen series are fired in less than two hours.

The only one of these series which is in support of an attack is that of the 1st battery, fired at 3.5 p.m. at the edge of the wood south-

west of Grez. But this attack is conducted by the other regiment of the brigade, with which this group is not acting in tactical connection.

Two series are fired at artillery flashes, and one at visible guns. These are the only opportune series.

Fourteen series are fired at troops on the march or assembled. At the first report of a gun these troops would certainly have taken steps to get under cover.

Five-sixths of the time and of the projectiles at the disposal of the artillery are therefore fired at targets which would not present themselves on service, or expended in series which, even if they were likely to occur on service, would be tactically useless. We may consider ourselves very fortunate if some of the series fired in this fashion did not hit our own troops.

These are habits which have been developed in our artillerymen by the properties of their new weapon, and which were encouraged by the 1903 Regulations.* The artillery should endeavour to get rid of these habits, if they do not wish to nullify, on the battlefield, the achievements of which the brilliant properties of the weapon render it capable.

It is not sufficient that series should be effective; they must also be opportune. It is better to kill 20 men in the firing line at the supporting point which is to be captured than to annihilate a whole company surprised in formation of march or of assembly.

At 1.15 p.m. the brigadier sends the following order to the commander of the reserve, despatched from the north exit from Prévillers :—

“One group of artillery to move to the ridge north of Prévillers to support the attack of the 23rd, which will start from Gaudechart in the direction of Grez.”

This order is probably communicated to the colonel commanding the 6th divisional artillery, who at this moment is at point 201, for half an hour later this officer gives his lieutenant-colonel the following order, dated 1.35 p.m., point 201 :—

“Proceed to reconnoitre, along the road from Prévillers steeple to Halloy, a position for the 3rd group suitable for the support of the attack of the Colonial Brigade in the direction of Grez.”

Criticism.—The brigadier need not have informed the commander of the reserve as to the use which he intended to make of the 3rd group; he need only have ordered him to place this group at the disposal of the colonel of the 23rd Colonial.

But his proper course would have been to constitute with these two units, the temporary tactical unit prescribed by Ministerial

* *Note.*—Para. 680 of the Regulations of 8/6/03 runs as follows :—“The essential object of the watch kept over the battlefield is to enable the artillery to come to the assistance, without delay, of the other arms, and quickly to direct an efficacious fire upon all the targets which present themselves in its field of action. Officers entrusted with the task of watching an area have full latitude to adopt any measures necessitated by the various events which occur in this area, and they are not to remain indifferent to events occurring in the neighbouring areas.”

Circular of 10th March, 1910. As a matter of fact, the colonel of the 23rd is not aware that his attack is to be supported by the 3rd group of the divisional artillery. For at 2.35 he writes: "My attack is supported by artillery from the Pleurs wood." This is the artillery of the 5th Division, of which a regiment is attacking the same place. On his part, the commander of the 6th divisional artillery forgets to tell the 3rd group that the attack which he is supporting is being executed by the 23rd. Here we have the two arms carrying out their combats separately. The records of firing show this lack of concert.

At 2 p.m. the 3rd group comes into action 1 mile north-west of Prévillers. The group commander assigns to each battery a zone to watch, leaving the captains to choose their targets. He mentions some targets to be fired on, but he does not detail either an infantry battery or a counter-battery. Each battery fires indifferently on infantry or artillery.

For the sake of brevity I will not reproduce the records of firing. These records may be summed up as follows:—

Eleven series fired between 2 p.m. and 3 p.m.

Seven on visible guns or flashes.

Three on infantry on the move.

One only on the supporting point which is to be captured.

The order for this last series is given by the group commander to the 1st battery at 2.40 p.m. It is very vaguely worded:—

"Support the infantry advancing to the attack of Grez."

Criticism.—In this instance the attack is no longer vague, as in the case of the 1st group. There is a definite task, namely, the support of the attack of the 23rd colonials on Grez. But the group commander, instead of detailing (say) one infantry battery and two counter-batteries, each of the latter with a zone to watch, or with a prescribed order of opening fire; instead of placing himself in tactical connection with the commander of the attacking force, in order to obtain instructions as to the point to fire on and the moment to open fire, he leaves it to each captain to choose his own target within a given zone. The only order which he gives as to the support of the attack is the following, issued at 2.4 p.m.:—

"Support the infantry advancing to the attack of Grez."

No instructions are given to the captain as to the point to fire on or the moment to open fire.

Finally, the 3rd group is firing on a battery south of Grez, which is already under the fire of the 1st group (see Diagram III). This shows that the colonel commanding the 6th divisional artillery has not allotted the zones to be kept under observation by his different counter-batteries. The same target is also being fired on by a battery of the 2nd group of the 5th divisional artillery, which is supporting the attack of the 74th on Grez from point 203, as will be seen shortly.

5th Division.—At 1.30 p.m. the brigadier of the 9th brigade gives the following order to the 2nd group, 5th divisional artillery, which is at his disposal:—

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"Bring up the group to near point 203 and support the attack on Grez, as soon as one battalion has occupied point 203."

Criticism.—This order fails to state that the colonel of the 74th is in command of the attack, and it gives no information as to the enemy.

At 2.15 the 2nd group comes into action at point 203.

The group commander gives the following orders :—

"1st battery, target enemy's artillery in position south-east of Grez.

"2nd battery, target enemy's artillery in position 100 yards left of Moulin de Pierre.

"3rd battery, support the attack of the infantry on Grez."

Battery Records of Firing. 1st Battery.—2.15. Fire on a battery in position.

2.40. On infantry in fours on the Orvillers-Grez road.

2.45. On same battery limbering up.

2nd Battery.—2.20. On artillery in the direction of Grez steeple.

2.40. Order received from group commander to change target on infantry appearing left of Grez steeple.

The battery commander orders :—

"Change target. Without shifting trails. On the infantry. Increase deflection by 30."

3rd Battery.—2.20. On infantry in front of Grez.

2.30. On battery half-way to Grez steeple, which is limbering up.

2.40. On infantry in column of fours retiring on Grez.

2.50. On artillery retiring from the above positions.

Criticism.—This time the battery commanders cannot justify their constant changes of target and firing in every direction on the pretext that they were left free to choose their own targets anywhere within a given zone. The group commander has given them well-defined tasks.

The 1st and 2nd batteries were detailed as counter-batteries to engage definite targets.

The 3rd battery was detailed to support the attack on the village.

The counter-batteries should not have abandoned their targets until they had obtained decisive results upon them, or for an urgent reason; for an enemy's battery, if left to itself, regains its freedom of action.

It was the duty of the infantry battery to fire, not upon infantry on the move, but upon the *enceinte* of the objective of the attack, according to the information communicated by the infantry. Pending the receipt of this information, it should have ranged upon different points of the *enceinte*, so as to be able afterwards to open effective fire at once upon any point required by the infantry.

Twenty minutes after fire had been opened there appears, to the south of Grez, a body of infantry in column of fours retiring on the village. Immediately these three batteries open fire upon this infantry. The 2nd battery is not in fault, since it is ordered to change target by the group commander; but this only aggravates the fault of the latter.

Nothing is more tempting to an artilleryman than to fire upon an infantry unit on the move, however small the unit may be. But nothing is more useless, because nine times out of ten a series of this nature fails to fulfil its purpose. And even if it did so, it would not help our own infantry to advance by a single pace. The best way to assist this advance is to keep up a fire upon that portion of the *enceinte* from which the shots which check the attack are proceeding. The desired result will sometimes be obtained even though the defender suffers no loss at all.

Five minutes after the appearance of this small column of hostile infantry, the guns upon which the 1st battery was originally firing, bring up their limbers. This battery then re-opens on its original target. It would have done better to keep to it, since these changes of elevation, deflection and fuze-corrector can lead to no useful result.

A quarter of an hour previously the 3rd battery had committed the same fault. This battery, whose task was to support the attack on Grez, fired only for ten minutes on the objective of the attack. Ten minutes later it was firing on limbers; after another ten minutes, upon infantry on the march; and in yet another ten minutes it was firing upon artillery on the move.

It would be difficult to imagine a worse example of the support of an attack.

At 2.30 the General Officer Commanding the 5th Division orders the colonel of his divisional artillery to place the 3rd group, now reduced to two batteries, "at the disposal of the brigadier of the 9th brigade, to co-operate in the attack of the line Thieuloy-Grez." The colonel commanding the divisional artillery orders his lieutenant-colonel to take command of the 2nd and 3rd groups and to report himself for orders to the brigadier.

At 3.5 the lieutenant-colonel gives the following order to these groups:—

"The 3rd group will come into action on the right of the 2nd. The zone of attack is to be divided between the batteries.

"The 2nd group will take the zone to the left of Grez steeple, the 3rd group the zone to the right.

"Task—to support the attack of the 74th on Grez.

"Point of assault—the south-east angle of the village.

"The 3rd group will furnish the battery to accompany the infantry if required. This battery not to be detailed till the 3rd group has opened fire."

The commander of the 3rd group, in whose zone the point of assault is situated, employs both his two batteries as infantry batteries. But he allots them zones to watch, in order to ward off counter-attacks. He details the 3rd battery to press forward to Grez as soon as the infantry shall have carried it.

The 2nd group, whose batteries had at 2.15 received definite targets, to the right and left of Grez steeple, finds that it has been allotted, on the left of the steeple, a zone which includes neither the artillery south-east of Grez upon which the 1st battery is firing, nor the south-east angle

of the village, which has been designated as the point of assault. The group commander is obliged to abandon his original targets and to allot his batteries zones to watch to the left of the steeple.

At 3.15 the commander of the 2nd group receives from the colonel of the 74th, who is not aware that a lieutenant-colonel and the 3rd group have arrived, the following information :—

"My intention is to attack Grez with two battalions and to assault at the south-east angle. The attack will commence at 3.30."

Fearing that at 3.30 the 3rd group will not be ready to support the attack, the commander of the 2nd group gives his batteries the following conditional order :—

"If the 3rd group does not open fire by 3.25, co-operate with the attack on Grez."

And he assigns to them new zones to watch, to the right and left of the steeple.

The 3rd group opens fire without delay, so the conditional order is not carried out. But the fire-direction is unfavourably affected by this succession of orders and counter-orders. The three batteries of the 2nd group fire upon infantry units on the move in the vicinity of Moulin de Pierre. The enemy's artillery is no longer fired upon (*see* Diagram III, showing the situation at 2.30, before the arrival of the 3rd group). It is true that the hostile artillery south of Grez is already under the fire of two batteries of the 6th divisional artillery, but the lieutenant-colonel of the 5th divisional artillery knew nothing of this; he did not even know which targets his own 2nd group were firing upon, otherwise he would not have given orders which resulted in these targets being abandoned.

Criticism.—Many artillery officers do not understand what is meant by reinforcing a group of artillery under fire. I have noticed this many times in the course of my inspections, and have referred to this point in my reports of 1908, 1909 and 1910.

In the first place, a group should not be reinforced except when this is necessary, that is to say, when it has in front of it more targets than it can effectually engage. A commander, before bringing up a group to reinforce it, should therefore ask himself :

What is the group to be reinforced doing? What was it intended to do? What has it not been able to do? What should I do to help it, without changing any more than necessary the tasks of its different units?

But it is rare to find an officer put these questions to himself. More often, commanders bring up reinforcements without asking themselves whether this is really necessary. It is a traditional operation which we execute because we have always seen it done. Without knowing the requirements of the group which is being reinforced, we distribute afresh all the targets or all the zones of observation between the old and the new units, as if we had as yet accomplished nothing. And we have to repeat this re-distribution if the enemy in his turn is reinforced.

It is in this manner that the lieutenant-colonel of the 5th divisional artillery acts. Now the 2nd group did not require to be reinforced at all. It would even have been possible to economize one battery, by turning one section only on to each of the targets of the 1st and 3rd

batteries. Since the 3rd group had been sent up without being required, it was unnecessary, in order to utilize it, to modify the task of the 2nd group, to break up the tactical connection already organized between this group and the infantry, which necessitated the organization of a fresh tactical connection between this infantry and the 3rd group; and finally to oblige all the guns of the 2nd group to change their deflection (a matter of thousandths, which, with the 75 mm. gun, presents no great difficulties), but also the elevations and the corrector settings which had taken so much trouble to obtain. The 2nd group might have been left to fulfil its task undisturbed. One of the batteries of the 3rd group might have been detailed to accompany the infantry, and the other would have been available, either in observation or limbered up, ready to engage any target which might appear in another direction. Or the 3rd group might have been ordered to fire on the interior of the village, or on its flanks and rear; but on no account should the original organization have been disturbed.

I may add that the task of the lieutenant-colonel would have been much simpler if he had been present with the 2nd group before the arrival of the 3rd group. He would have been obliged to concern himself as to what the 2nd group was doing; he would have had time to reflect as to what task he would assign to the 3rd group on arrival; and it would not have occurred to him to relieve the infantry battery, which was supporting the attack of the 74th, of its task.

For this reason I would advise that in an advanced guard, where the group will probably be reinforced by a group from the main body, the lieutenant-colonel of the divisional artillery should march with the commander of the advanced guard, and should become ~~that~~ officer's artillery commander.

About 4 p.m. the lieutenant-colonel of the 5th divisional artillery reports as follows to his colonel:—

“Manœuvres suspended at 3.45 p.m.

“The 2nd and 3rd groups are in position at point 203 and are supporting the attack of the 74th on Grez.

“The position is completely concealed, and I am able to withdraw a portion of this artillery if required. If Grez is captured, I intend to ask the brigadier of the 9th brigade to leave the 3rd group at your disposal. This group, unless fresh orders are received, will remain at point 203.”

Criticism.—The lieutenant-colonel of the 5th divisional artillery did well to think of withdrawing a portion of the artillery from the 9th brigade, once Grez had been taken, and to explain that this withdrawal was possible owing to the completely-concealed nature of the position. Thanks to this concealment, the batteries of the 5th divisional artillery were never fired upon. (See Diagram III.)

But the lieutenant-colonel, when he designated the 3rd group as the one to be replaced at the disposal of his commander, forgot that this group had been detailed to furnish the battery to accompany the infantry. The batteries which should have been reported available were the infantry battery ordered to support the attack, and the counter-batteries whose targets had disappeared when threatened by the rifles of the advancing infantry.

The feature which characterizes the attack on Grez is the accumulation, to the south of this village, of two regiments and eleven batteries belonging to different divisions. This is the fault of the brigadier of the Colonial Brigade, who directed the 23rd on Grez, although he had been ordered to defend the front La Houssaye-Grez (exclusive).

Under the circumstances the brigadier of the Colonial Brigade should have taken command of all the troops engaged in this attack, and the colonel commanding the 6th divisional artillery should have taken possession of the five batteries of the 5th divisional artillery, in conformity with Ministerial Circular of 10th March, 1910.

At 2.30 p.m. the General Officer Commanding the 5th Division had ordered the brigadier of the 10th brigade to move, with the 1st group, on Thieuloy, by Briot la Grange, to clear the front of the 9th brigade.

The employment of the artillery in this operation presents no features of interest.

At 4 p.m., when manœuvres cease for the day, the 10th brigade is in the district Brombos-Briot.

The Director of Manœuvres decides that the outposts of the two forces are to be so posted that they will be separated, next morning, by the Grandvilliers-Hétomesnil road.

14TH SEPTEMBER.

(Diagrams IV, V, VI and VII.)

Three principal engagements were fought on this day :

I. In the neighbourhood of Sarnois and Grandvilliers, between the 5th Division (Blue) and the 4th Division (Red).

II. In the neighbourhood of Grez, between the Colonial Brigade (Blue) and the 6th brigade (Red).

III. In the neighbourhood of Conteville, between the 6th Division (Blue) and the 5th brigade and Chasseurs-Zouaves Brigade (Red).

COMBAT OF SARNOIS-GRANDVILLIERS.

Blue Force.

5th Division.—On the evening of the 13th the General Officer Commanding Blue Force had issued, for the day of the 14th, operation orders, of which an extract is here reproduced :—

II. "The 3rd Army Corps, reinforced by the 3rd Cavalry Division, and rejoined by its corps artillery, will continue its offensive movement vigorously, making its principal effort on the right, with the object of driving back the enemy towards the north and cutting him off from Paris.

"The Colonial Brigade and the 6th Division will pivot on the 5th Division, keeping touch to the left.

"III. The 6th Division will take Lihus as its first objective ; it will then wheel to the north and will attack the enemy on the front Le Mesnil-Conteville-Rieux inclusive ; general direction, Sommereux.

"The Colonial Brigade will attack between Grez (exclusive) and Rieux (exclusive); general direction, Le Hame-Cempuis.

"The 5th Division will attack on the front Cempuis (exclusive)-Réderie.

* IV. All the attacks will move off at 8.30 a.m.*

"V. The whole of the divisional artillery is again placed under the orders of the General Officer Commanding 6th Division, who will also have at his disposal, from this evening, the two groups of corps artillery quartered at Grémévillers.

"The Colonial Brigade will have one group of corps artillery at its disposal.

"VI. One regiment of the 6th Division and one group of corps artillery will be at the disposal of the General Officer Commanding Army Corps between Haute-Épine and the north edge of the forest of Malmifait at 8.30 a.m."

In execution of the preceding order the General Officer Commanding 5th Division issues the following orders:—

"The 5th Division will attack on the front Cempuis (exclusive)—Réderie.

"On the right—the 9th brigade and one group of artillery, on the front Cempuis (exclusive)—Sarnois-Sommereux (inclusive).

"On the left—the 10th brigade and one group of artillery, on the front Sarnois-Sommereux road (exclusive)—Réderie (inclusive).

"At 6 a.m. the brigades will cross the line Sarnois-Grandvilliers-Hétomesnil Grandvilliers road.

"The troops at the disposal of the General Officer Commanding the Division will be one regiment of the 10th brigade and one group of artillery, which will assemble at 6 a.m. near La Briqueterie to the east of the Viteaux wood and to the north of the railway."

Criticism.—On the day of the 14th September we note, to a still more marked extent than on the preceding days, the tendency of the majority of the commanders to distribute their artillery, at the outset, between their different units.

From the evening of the 13th the commander of the 3rd Army Corps hands over two groups of the corps artillery to the 6th Division.

The commander of the 5th Division gives the 1st group to the 10th brigade and the 2nd to the 9th, keeping only the 3rd group at his own disposal.

These are not the "temporary tactical units" prescribed by the Ministerial Circular of 10/3/1910; these units should only be constituted in order to carry out definite tasks.†

10th Brigade.—At 6 a.m. the 36th regiment issues from Sarnois. About 7.15 the brigadier of the 10th brigade receives from the divisional squadron a report dated 7 a.m. informing him that Réderie

* Note.—This hour was fixed by the Army Corps Commander.

† Note.—"The Picardy Manœuvres."—Remarks by General Michel.

is occupied by the Red infantry, and that three Red battalions are marching from St. Romain on Dargies.

The brigadier reports this situation to the General Officer Commanding the Division, who at 8.30 gives the following order :—

"Our left appears to be seriously threatened. Consequently the 129th regiment, which is in divisional reserve to the east of La Chaussée, is handed over to the brigadier of the 10th brigade, who will also have at his disposal one battery of the 3rd group. The divisional reserve will be furnished by the 9th brigade, and will consist of one battalion of each regiment."

At 7.30 the brigadier gives the following order to the commander of the 1st group, which is reinforced by the 2nd battery of the 3rd group :—

"Support the advance towards Réderie. Co-operate in checking the outflanking movement of the enemy on the plateau of Quesnoy wood farm."

At 7.50 the group commander gives the following orders :—

"1st battery. Come into action on the north edge of Sarnois near the steeple. Your task is to support the two companies who are advancing to occupy Quesnoy wood farm, in case they meet with resistance. Assist these two companies to prevent the enemy, issuing from the Dameraucourt ravine, from gaining a footing on the plateau."

"3rd battery. Come into action within the enclosure of Sarnois at the north-east edge of the village. Your task is to fire on the outskirts of Réderie and the valleys to the north. You will open fire upon any visible hostile artillery and upon any infantry which appears in your zone."

"2nd battery. Come into action on a level with the 3rd battery, on the other side of the road, within the enclosures, watching Réderie brickworks and the ground to the south, the artillery to the south of the brickworks, and any infantry within your zone."

Criticism.—The brigadier's order to the group commander is wanting in precision. It is equivalent to saying "I know nothing of what is going on; take the necessary steps." It sets no limit on the expenditure of artillery.

Consequently the group commander engages the whole of his batteries with ill-defined tasks.

The 1st battery is to support the attack on Quesnoy, if the two companies advancing on this point meet with resistance. If not, it is to assist the two companies to hold the enemy in check in this neighbourhood. This amounts to placing the 1st battery at the disposal of the two companies, whose commander is not designated, and whose task possibly does not justify the expenditure of a battery.

The task of the 2nd and 3rd batteries appears to be the support of the attack on Réderie. Now this objective has not been reconnoitred, and it will never be attacked. The group commander allots zones of observation to his batteries, their task being to fire upon any artillery and any infantry which may appear in these zones.

This is a task which is assigned to artillery in the distant defence. But in a case such as the present one it is not desirable to engage the whole of one's forces.

At 8.25 a.m. the II/36, marching on Réderie, is driven back upon Sarnois, of which it lines the enclosures. The brigadier gives orders for the defence of this supporting point.

In compliance with these orders, the group commander gives the following orders:—

"1st battery. The 3rd battery is firing on the plateau of Quesnoy wood west of the Sarnois-Dameraucourt road. Continue to fire upon the enemy's infantry east of the same road as far as Réderie inclusive. Extend your zone of observation more to the south, covering the zone previously allotted to the 2nd battery.

"2nd battery. Limber up and come into action at the north of Sarnois cemetery. Your task is to flank the north edge of Sarnois and to check the enemy's infantry at the exit from the Dameraucourt-Elencourt valley on to the Quesnoy farm plateau, which is now held by us."

Criticism.—If the commander had not been in such a hurry to expend his artillery, he would have been saved the necessity of shifting the 2nd battery, and extending the zone of observation of the 3rd battery.

Half-an-hour later the 2nd battery of the 3rd group, 5th divisional artillery, arrives and comes into action in the position vacated by the 2nd battery of the 1st group. The group commander gives the following orders:—

"9 a.m. 2nd battery. You are an infantry battery. Fire upon all infantry in the zone between Réderie steeple and Dargies steeple.

"9 a.m. 3rd battery. Concentrate your fire on the plateau west of Réderie."

Criticism.—The commander is so anxious to expend his artillery that he brings the 2nd battery into action in a position which had been abandoned half-an-hour before. This entails a fresh modification of the zone of observation of the 3rd battery.

In the meantime one battalion of the 129th arrives at Sarnois, its task being to attack the Red Forces which are investing Sarnois from the north.

To support this attack, the commander of the 1st group, 5th divisional artillery, gives the following order:—

"2nd battery. 9.50 a.m. One battalion of the 129th is about to issue from Sarnois, near the church, towards the north; it is directed on the Elencourt plateau.

"Support this advance from your present position."

About 10.15, when the battalion of the 129th has gained a footing on the Quesnoy farm plateau, the 1st battery is ordered "to take up

a position 550 yards north-north-east of Sarnois " in order to support the infantry who have gained a footing in this neighbourhood.

At this point the day's manœuvres terminate.

Criticism.—Although the action in this part of the battlefield presents few features of interest, I have reproduced, in their entirety, the orders concerning the artillery, in order to illustrate the tendency of the majority of the commanders to expend their batteries as early as possible.

The first form which this tendency assumes is the attachment of artillery to units without any task; the second is the premature deployment of the artillery. This results in the frittering away of batteries, some being useless and others insufficient for their task.

9th Brigade.—Since the early morning the brigadier, who is ordered to attack on the front Cempuis (exclusive)–Sommereux (inclusive) has kept the commander of the 2nd group, 5th divisional artillery, informed of his intentions. The latter commander causes an artillery position to be reconnoitred between the Grandvilliers–Sommereux and Grandvilliers–Dargies roads.

At 6 a.m. the 9th brigade advances to the attack of Sommereux, which is held in force and obstinately defended. The attack is pushed forward too quickly, over open ground, without artillery preparation, and is adjudged to have failed. At 7.30 the brigade is ordered by the umpires to return to its starting point, the north-east edge of Grandvilliers.

At 6.20 the group is in position as follows :—

3rd battery in observation of the ground between Sommereux and Dargies.

2nd battery in observation between point 186 and Sommereux.

1st battery in observation of a zone extending 300 thousandths to either side of Sommereux steeple.

The tasks assigned to these batteries are as follows :—

3rd battery, support the attack of the 39th.

1st and 2nd batteries, support the attack of the 74th.

Criticism.—The brigadier gets rid of his artillery by handing it over to his two colonels. One battery is to support the right attack and two the left attack. The breaking-up of units is carried out down to batteries.

Moreover, no infantry battery is detailed. The batteries are all given zones of observation, which leaves them free to choose their own targets.

Between 8.30 and 9 a.m. the 1st and 3rd batteries of the 3rd group, 5th divisional artillery, which were at Grosserve farm (north

of Grandvilliers), are placed at the disposal of the 9th brigade. At this moment, two battalions of the 129th, which were also at Grosserve farm, come into contact with hostile troops coming from Réderie.

At 9.10 a.m. the lieutenant-colonel of the 5th divisional artillery gives the following order to the commander of his 3rd group :—

“ Move one battery to the west of the intersection of the Dameraucourt and St. Romain roads (north of Grandvilliers) to fire upon the line of hostile infantry $\frac{1}{2}$ mile north of Grosserve, which is checking the 129th, who are endeavouring to issue from this village. You will place yourself in tactical connection with the colonel of the 129th. Keep one battery in a position of readiness in the ravine north-west of Grandvilliers.”

The commander of the 3rd group, in his turn, gives the following order to his 1st battery :—

“ Move to 550 yards south of Grosserve farm* to support the 74th as they issue from Grandvilliers.”

At 9.30 the commander of the 5th divisional artillery places the five batteries under the command of his lieutenant-colonel, who gives the following order :—

“ 9.50 a.m. The 2nd group will support the attack of the 39th on Sommereux, including its south outskirts.

“ The 3rd group will support the attack of the 74th in the southern zone as far as Cempuis inclusive.

“ Group commanders will place themselves in tactical connection with the commanders of these regiments, who have been informed of these dispositions.”

Criticism.—The lieutenant-colonel aggravates the confusion by upsetting the tasks already allotted. The 1st and 2nd batteries, who were supporting the attack of the 74th, are now to support the attack of the 29th. This is a repetition of the error committed before Grez, on the 13th September, at 2.30 p.m. In every instance the tactical connection which had been organized is broken up.

This reinforcement has actually enfeebled the attack.

In execution of the above order, the group commanders, at 10 a.m., give the following orders :—

“ 2nd Group.—2nd battery. From 80 thousandths right of Sommereux steeple, zone 100 thousandths. Task—assist the infantry attacking Sommereux by firing upon the enemy's artillery or infantry, according to circumstances.

“ 1st battery. Zone 80 thousandths left of Sommereux steeple. Assist the infantry attack by firing upon the approaches to the village.

“ 3rd battery. From 80 thousandths left of Sommereux steeple, zone 120 thousandths. Assist the infantry attack by firing upon the approaches to the village.”

* *Note.*—According to its record of firing, this battery took up a position east of Grandvilliers.

"3rd Group.—Zone of action of the batteries :

"1st battery. Right of Cempuis steeple, 350 thousandths, front 200 thousandths.

"3rd battery. Left of the steeple, 140 thousandths, front 240 thousandths."

Criticism.—The division of the target zone between the two groups should have restored order as regards the targets of the counter-batteries. But since these batteries have received zones of observation, with permission to select any targets in them which they may choose, they almost all fire upon infantry. (See Diagram VI.) Of the batteries of the 4th (Red) Division, neither the 3rd group, nor the 2nd group, nor the two batteries on the right of the 1st group, are fired upon. The position at Grandvilliers is under the fire of seven Red batteries, which are entirely unmolested.

At 10.15 a.m. the lieutenant-colonel of the 5th divisional artillery gives the following order to the commander of the 3rd group :—

"Advance in the direction of Sommereux to support the attack of the 74th on this village, and to oppose any counter-attack from the village or towards the south."

Criticism.—This order is incomprehensible. If it was desired to send a battery with the attack, this battery should have been chosen from among the batteries not engaged. Now the 3rd group was already engaged.

As it happened, this order was never carried out, as the manoeuvres terminated for the day at this moment.

Red Force.

4th Division.—On the evening of the 13th the General Officer Commanding the 4th Division had received from the commander of the 2nd Army Corps the operation orders for the 14th September, of which an extract is here given :—

"To-morrow, the 14th September, the Red Force will make a general attack, starting from the positions occupied at the close of this day.

"4th Division on the front La Chaussée-Thieuloy (inclusive).

"3rd Division on the front Grez-Hétomesnil (inclusive).

"Brigade of Chasseurs-Zouaves to be assembled at 6.30 a.m. south of Lavacquerie.

"The three groups of corps artillery quartered at Poix, Frémontiers and Sentelie will be assembled, at 7 a.m., to the north of the Dargies-Offoy road.

"The Sentelie group will be restored to the command of the Army Corps commander."

In compliance with the preceding order, the General Officer Commanding the Division issues the following order :—

"Intentions of the General Officer Commanding the Division.

"I. By a first effort, to reach, with the division, the front Sarnois, Grandvilliers, Halloy.

"II. Then, after pivoting on the left of the division, to reach the front Bois des Hêtres, Thieuloy.

"Execution. The attack will be carried out by two brigades abreast.

"(a) On the left, the 8th brigade (less two battalions in Army Corps reserve), reinforced by one group of the divisional artillery and by the divisional company of engineers, will take as its first objective the front Halloy-Moulin de Pierres, and as its further objective the front Thieuloy-Cloiseau wood. Halloy will be prepared for defence as a pivot of manoeuvre during the change of direction of the 7th brigade towards the south.

"(b) On the right, the 7th brigade (less two battalions in divisional reserve), reinforced by one group of the divisional artillery, will move on the front Sarnois-Grandvilliers, and then, pivoting on its left, will take as its first objective the front Petit Halloy-Viteaux wood, and as its further direction, Écatèle, Briot-la-Grange.

"(c) Troops in reserve at the disposal of the General Officer Commanding the Division :

"Two battalions of the 7th brigade and one group of the divisional artillery, to be assembled at 7 a.m. in the ravine at the south-west exit from Dargies."

7th Brigade.—The 3rd group of the divisional artillery, which at 7 a.m. was assembled in the ravine south-west of Dargies, receives at this moment the following order from the brigadier :—

"The 67th is attacking the front Sarnois-Grandvilliers. Follow its advance by the Dargies-Sarnois ravine."

At 7.30 a.m. he receives a fresh order :—

"Bring up a battery to the west of No. 1 National road. Target, the infantry holding Quesnoy wood farm."

The group commander then gives the following order :—

"3rd battery, move to position 550 yards south of Réderie. Target north portion of Sarnois and Quesnoy wood farm.

"1st battery, move to position 550 yards south of brickfield and east of National road. Task, to watch north portion of Sarnois and interval between Sarnois and Grandvilliers.

"2nd battery, on the left of and slightly to the front of the 1st. Task, to watch Grandvilliers."

Criticism.—It might be supposed, on reading the order of 7 p.m., that the 3rd group is handed over to the colonel of the 67th. But this is not the case, since the brigadier gives it an order at 7.30.

The order of 7.30 seems to show that the brigadier wishes Quesnoy wood farm to be attacked, but he does not say who is to attack it.

The group commander vaguely indicates Sarnois and Quesnoy as targets of the 3rd battery. But this battery fires on Sarnois only, and a fresh order from the brigadier is required to make the battery turn a section, at 8 a.m., on Quesnoy.

The brigadier having failed to state clearly what he wants, the group commander deploys the 1st and 2nd batteries, directing them to fire on certain zones; there is nothing to justify this procedure. The 1st battery fails to keep to the limits assigned to it, and fires on Quesnoy, which is beyond its zone. It afterwards returns to its zone,

and fires first as an infantry battery and afterwards as a counter-battery.

The attack on Quesnoy, badly supported, progresses with difficulty. The brigadier therefore gives the following order at 8 a.m. :—

“Bring up a battery to the south-west of Réderie, to open direct fire on the infantry holding Quesnoy farm.”

The 2nd battery has just come into action north of the Réderie-Sarnois road, on the outskirts of Réderie. It fires upon the enemy's infantry, and afterwards upon his artillery.

Criticism.—The brigadier continues to place his batteries himself, instead of telling the group commander plainly what he wants.

The 2nd battery is taking liberties, by engaging the enemy's infantry on its own account.

The guns of the 2nd battery are now run up by hand to a fresh position, 220 yards to the front, where dismounted men are defiladed from view. But it is fired upon by the Blue artillery in position outside Sarnois, and is put out of action by the umpires from 8.45 to 9.45.

Criticism.—This decision of the umpires is not logical. The 2nd battery will not be less vulnerable an hour later than at the present moment. A battery under fire must continue its own fire, getting in its own *rafales* between those of its adversary. It does not cease fire entirely.

The 2nd battery is replaced in its task of watching its zone by the 3rd battery, which changes position.

A fresh order directs this battery to shift again, to replace the 2nd battery, put out of action by the umpires.

Unfortunately, when it reaches its new position it fires upon Sarnois and not upon Quesnoy.

Criticism.—Thus the 3rd battery, which already had one section firing on Quesnoy, is sent up to replace a battery whose task was to fire upon Quesnoy, and it does not take over this task.

This is what happens when artillery is deployed prematurely.

About 9.15 a.m. the brigadier of the 7th brigade abandons the idea of taking Sarnois and decides to employ the infantry force still at his disposal against Grandvilliers.

At first the 3rd battery only, and afterwards the whole group, is shifted to support this attack.

Finally, when the enemy issues from Sarnois, the group is again shifted to oppose this movement.

At this moment the day's manoeuvres terminate.

Criticism.—The 3rd group of the 4th divisional artillery has been in action, under fire, from 7.30 to 10.30 a.m. During these three

hours the group has occupied seven positions and has been allotted as many different tasks.

The 3rd battery has changed position five times, and the 1st battery four times.

8th Brigade.—At 6.30 a.m. the 1st group of the 4th divisional artillery is assembled in the ravine south-west of Dargies. The group commander, who is with the brigadier, at the west exit from Sommereux, receives the following order at 6.50 a.m. :—

“ Assist the advance of the right battalion of the 87th up the ravine parallel to the Sommereux-Grandvilliers road and to the north of this road. This ravine is held by a chain of skirmishers.”

One section of the 1st battery takes up a position north of Sommereux to carry out this task.

At 7.40 the group commander receives a fresh order from the brigadier :—

“ I intend first to attack Halloy. Support the left attack on this place, which will be made by one battalion of the 45th.”

This task is assigned to the 2nd battery, which takes up a position south-east of Sommereux.

Criticism.—The 8th brigade is ordered to attack on the front Halloy-Moulin de Pierre; therefore Halloy is on its right. Now in his order of 7.40 a.m. the brigadier calls the attack on Halloy the left attack; this shows that the 8th brigade has already changed front, and is now facing the front Grandvilliers-Halloy.

One battalion is sent to occupy Cempuis, to keep touch with the 3rd Division, which has just entered Grez. There remains only one battalion in reserve at Sommereux. The brigadier does not see his way to use this battalion to support the left of the 7th brigade, which, in delivering an attack on the front Sarnois-Quesnoy, has separated itself from the 8th brigade.

Before Sarnois, the 7th brigade is progressing with difficulty. The brigadier of the 8th brigade decides to support the attack of the 7th. He therefore gives the following orders to the group commander :—

“ 8.40 a.m. Assist, with your artillery, the attack of the 7th brigade, on our right. This attack is encountering serious resistance north of Grandvilliers.”

The 3rd battery, in consequence, receives the following order :—

“ The 7th brigade is encountering serious resistance on our right. You are detailed to support it. Open fire on the masses of hostile infantry which are occupying the crests north of Grandvilliers, towards Grosserve. Endeavour to locate the enemy's artillery in the same neighbourhood. Your zone of action is about 100 thousandths.”

Criticism.—We have just seen that at about 9.15 a.m. the brigadier of the 7th brigade had come to the assistance of the 8th brigade. This action was a mistaken one; but at least the brigadier of the 7th had employed, for this operation, a force of infantry and artillery acting in concert. Now the brigadier of the 8th brigade orders the 3rd battery

to support troops of which it knows nothing. This battery is to fire on masses of infantry, and to endeavour to locate the enemy's artillery. This is a serious infraction of Ministerial Circular of 10/3/1910.

While the commander of the 1st group was posting the 3rd battery, the brigadier himself ordered the spare section of the 1st battery into action. This section came into position west of Sommereux and opened fire on Grandvilliers.

At 9.20 the 3rd battery, fired upon by two batteries in position north of Grandvilliers, is placed out of action for half an hour. In consequence of this, the commander of the 1st group abandons the idea of supporting the attack on Halloy, and the whole group is ordered to fire on Grandvilliers.

The troops at the disposal of the General Officer Commanding the Division included two battalions of the 54th and the 2nd group, 4th divisional artillery. The colonel of the 54th had received the following order :—

“The colonel of the 54th will take command, not only of the two battalions in reserve, but also of the 2nd group, 4th divisional artillery, of which he will direct the movements.”

This order had been supplemented by the commander of the 2nd group as follows :—

“This group is placed, for the march, under the orders of the colonel commanding the 54th. The group commander (myself) will remain with the commander of the divisional artillery until the group comes into action. The captain of the 2nd battery will assume command of the group.”

In order to close the interval between the 7th and 8th brigades, the General Officer Commanding the Division, at 7.30, orders his reserve to move from Dargies on Grandvilliers.

The colonel of the 54th considers this order as an order to attack, and he gives the following order to the captain in temporary command of the group :—

“Support my attack, selecting a position from which you can fire on the enclosures of Grandvilliers.”

The General Officer Commanding the Division, learning that his reserves have become prematurely engaged, sends them the following order :—

“8.40 a.m. You did wrong to engage the leading units of your troops, which I wish to keep at my disposal. Withdraw and form up the two battalions of the reserve. You will not advance again without orders.”

Criticism.—This incident shows how ignorant many officers still are as to the functions of the different commanders.*

It is mistakes of this kind, rather than tactical errors, which give rise to the most serious disasters in war.

* “Observations by General Michel.”

At the same time the General Officer Commanding the Division sends the following order to the colonel commanding the 4th divisional artillery :—

“ 8.40 a.m. Considerable forces of hostile infantry are issuing from Grandvilliers. Dispose the reserve batteries provisionally to stop the advance of this infantry.”

In fulfilment of this task, the group remains in the same position ; afterwards, at 9.25, the hostile infantry having ceased to advance, it is ordered by the commander of the divisional artillery to assemble in the ravine south of La Briqueterie.

Criticism.—The infantry and artillery in reserve did not form a temporary tactical unit so long as no task had been assigned to them. But from the moment when the General Officer Commanding the Division decided to arrest the offensive movement of the Blue infantry issuing from Grandvilliers, he should, in conformity with Ministerial Circular of 10/3/1910, have constituted, for this temporary defensive operation, a temporary tactical unit. Thus he would not have been obliged to prescribe the organization of this unit a moment later, when he proceeded to take the offensive. Even on the defensive, artillery should never act independently of the infantry.

Shortly afterwards, the General Officer Commanding the Division decides to put in his reserve against Grandvilliers, and to support it with the 2nd group. The colonel commanding the divisional artillery then gives the following order to the group commander :—

“ Bring your batteries into action so as to fire on the enclosures of Grandvilliers.”

The group commander orders :—

“ Task, to fire on the enclosures of Grandvilliers. Your positions are to be concealed (defiladed) to the greatest extent compatible with your task. All three batteries will be infantry batteries.”

The batteries come into action between La Briqueterie and the intersection of the Grandvilliers-Dargies and Sommereux-Réderie roads.

Criticism.—The group commander should not have engaged all three batteries as infantry batteries. One can never be certain whether the opening of fire will not be the signal for an artillery combat. The records of firing of the batteries show that only one of the captains obeyed the orders of the group commander. The two other batteries fired on the enemy's artillery.

Finally, Grandvilliers was bombarded by batteries belonging to three different groups. If the General Officer Commanding, instead of distributing his groups beforehand between the different commanders, instead of frittering away his infantry and his artillery, had waited until the enemy had been reconnoitred before engaging his artillery, he would have been able to launch an attack on a large scale, of which the command would have been well organized, upon Grandvilliers. This attack would probably not have required so large a force of artillery.

ENGAGEMENT OF GREZ.

Blue Force.

Colonial Brigade.—At 8.10 a.m., in compliance with the order which he has received from the commander of the 3rd Army Corps, the brigadier of the Colonial Brigade gives the following order to the 3rd group of the corps artillery, which is under his orders :—

"The Colonial Brigade is ordered to take part in the action. I shall attack on the front Rieux (inclusive)–Grez (exclusive). I shall deliver two attacks separated by the Prévillers–Le Hamel road. Support the attack."

Criticism.—"Support the attack" meant nothing so long as the objective of the attack is not stated. Is the attack to be on Rieux or on Le Hamel? The existence of two attacks ought to result from the existence of two objectives, and not from that of a road separating them.

The order should have stated that the 23rd regiment was attacking on the left and the 21st on the right.

In execution of the preceding order the group commander gives the following order :—

"8.40 a.m. 1st battery in observation near point 201 north of Prévillers and south-east of the Prévillers–Hétomesnil road, supporting the left attack.

"2nd battery, as for 1st battery, to support the right attack.

"3rd battery, as a counter-battery, in the centre of the position, watching the zone of the two attacks."

These orders are executed; the 1st battery comes into action on the left of the 2nd. However, these two batteries find it more convenient to cross their fire, so that it is the 2nd battery which supports the attack of the 23rd and the 1st battery that of the 21st regiment.

Criticism.—A symmetrical disposition of the attacking brigade called for a symmetrical disposition of the artillery. The group commander's order could not have been better framed. But it was not carried out.

From the records of firing it appears that the 1st battery certainly did fire as an infantry battery upon all the targets which appeared in its zone of observation; but that the 2nd battery fired first as a counter-battery, then as an infantry battery, and then again as a counter-battery. The records moreover show that at 10 a.m. the 2nd and 3rd batteries fired upon artillery flashes visible 180 thousandths to the left of Grez steeple, at a range of 5,000 yards. The target thus defined is the 3rd group of the 5th divisional artillery, belonging to their own force.

Shortly afterwards the brigadier, learning that the 5th Division is not marching on Grez but upon Cempuis, orders the 23rd colonial regiment to send forward one battalion to Grez, which has been entered by the Red Force, in order to keep touch with the 5th Division.

Criticism.—Here we have at last an objective for the attack. But the orders do not state that this decision has been communicated to the artillery.

At 10.5 a.m. the brigadier learns from a report sent in by the colonel of the 23rd colonials that the battalion engaged facing Grez is no longer in touch with the right of the 5th Division ; and that the 21st regiment has been obliged to halt to keep touch with the 11th brigade, which is unable to advance beyond Hétomesnil. He consequently decides to engage his two reserve battalions, and gives the following order :—

“ 10.15 a.m. The 23rd regiment, with its three battalions, will attack in the direction of Grez-Le Hamel.

“ The 21st regiment, leaving two companies at the north exit of Préwillers as brigade reserve, will attack in the direction of Rieux, keeping touch on the left with the 23rd regiment and on the right with the 6th Division.

“ The artillery will support the attack, sending one battery to point 189, 1,000 yards north of Ovillers.”

The group commander then gives his second battery the following order :—

“ Hétomesnil and the heights at point 189 are occupied by our infantry. Take your battery to a position at point 189 to support the advance of the infantry. A road has been reconnoitred by which you can advance under cover. An under-officer will guide you.”

Criticism.—The group commander presumes that it is for the support of the attack on Rieux that he is ordered to send forward a battery. This is not stated in the order.

Unfortunately the group commander forgets that his two infantry batteries are crossing their fire, and he details the right infantry battery, with the result that the left attack is no longer supported by artillery.

The manoeuvres cease for the day at the moment when this order is about to be executed.

Red Force.

6th Brigade.—On the evening of the 13th the 6th brigade had received from the General Officer Commanding the 3rd Division the operation orders, of which an extract is here given :—

“ The attack of the 3rd Division will be made as follows :—

“ The objective of the 6th brigade will be Grez, that of the 5th, Hétomesnil.

“ Each brigade will attack with an advanced guard of two battalions supported by one group of artillery.

“ The General Officer Commanding the Division intends that the 6th brigade, after taking Grez, shall entrench itself there so as to form a supporting point for the right, and shall thence press forward in a southerly direction. •

“ The general direction of the advance will be Le Hamel-point 189-Préwillers.

“ One battalion of the 6th brigade will be in divisional reserve at the south-east exit from Cempuis, by 7 a.m.

“ Two battalions of the 5th brigade, also in divisional reserve, will be in the valley 1,000 yards north-east of Rieux, by 7 a.m.

"One group in reserve, under the General Officer Commanding the Division, in the valley 660 yards north of Rieux, by 6.30 a.m.

"The brigadier of the 6th brigade will have at his disposal, at 6.30 a.m., one group of artillery in the valley east of Le Hamel.

"The 5th brigade will have one group at its disposal at the same hour, to the north of and close to Conteville."

In execution of the preceding order, the brigadier gives the following order:—

"The advanced guard (two battalions of the 72nd) will cross the Grandvilliers-Hétomesnil road at 6.30 a.m. and will attack Grez, under the protection of the artillery (one group) which will take up a position south-east of Le Hamel.

"The remainder of the brigade (the 51st regiment marching as a whole) with the exception of one battalion of the 72nd at the disposal of the General Officer Commanding the Division, will be assembled by 6.30 a.m. north-east of Le Hamel, in the valley of the Chapelle St. Martin."

At 6.30 a.m. the brigadier sends the following fresh order to his advanced guard commander:—

"I am placing at your disposal, provisionally, for the attack on Grez, the artillery group which is under my orders."

In the absence of the group commander, who is with the brigadier, the captain in command of the 1st group posts one battery west of the Chapelle St. Martin, "to fire on the slopes between Thieuloy-St. Antoine and Grez." The battery does not have to fire, as the two battalions of the 72nd which form the advanced guard of the 6th brigade find Grez unoccupied.

Criticism.—The General Officer Commanding's order stated that each brigade was to attack with an advanced guard of two battalions supported by one group. It might be deduced from this that, according to the ordinary routine, the group was to be under the orders of the commander of the advanced guard.

The brigadier's first order prescribes the position where the group is to come into action.

His second order places the group provisionally at the disposal of the commander of the advanced guard, without prescribing a position for it, but reminding the group that it is under the brigadier's orders.

The captain in command of the group then considers himself at liberty to order it into a position other than that previously ordered by the brigadier.

The fact is that the orders are not clear. No one knows to whom the group belongs. We shall see directly that it received contradictory orders from different sources.

At 8.10 a.m. the brigadier, whom the General Officer Commanding the Division had ordered to press forward in a southerly direction, gives the following order:—

"I. The enemy is issuing in small bodies from the wood of Pleurs; he is holding Gaudechart strongly, and his right extends towards Prévillers.

" II. In order to co-operate with the action of the 5th brigade, an attack on Gaudechart will now be carried out.

" III. The two battalions of the 72nd, supported by the group of artillery in action north-west of Grez, will attack in the direction of Gaudechart.

" The 51st will assemble north-west of Grez.

" IV. Grez will be held by two companies of the 72nd and the divisional engineer company, who will prepare the village for defence."

In execution of this order, the commander of the 1st group directs the captain acting in command to come into action at the south exit from Grez, to support the attack of the advanced guard on Gaudechart.

Just as this order is about to be carried out, an order arrives from the General Officer Commanding the Division, dated Rieux, 8.25 a.m., and worded as follows :—

" I. The divisional cavalry sends definite information that at 7.45 a strong column of Blue infantry, preceded by a battalion marching semi-deployed, crossed the Hétomesnil-Crèvecœur road, coming from Lihus and marching on La Houssaye.

" II. As soon as the 5th brigade is in possession of Hétomesnil, it will reconnoitre and attack this enemy marching on La Houssaye.

" III. The 6th brigade, which is in possession of Grez, will take Owillers as its objective, working in tactical connection with the 5th brigade, and watching Gaudechart."

The brigadier considers that he ought not to abandon Grez, against which the colonial infantry (Blue) is seen to be advancing. At 9.30 he gives the following order :—

" To meet the attack which the Colonial Brigade (strength at least one regiment) is attempting, issuing from the wood north of Préwillers and from Owillers on Grez, the following dispositions will be made :—

" (a) The two battalions of the 72nd, supported by one battery, the whole under the command of the colonel of the 72nd, will defend Grez.

" (b) The 51st, passing between Grez and Le Hamel, will counter-attack towards Owillers.

" (c) Two batteries of the group will at once come into action south-east of Le Hamel so as to command the exits from the wood north of Préwillers and the ground over which the counter-attack will be delivered."

In execution of the above order, the commander of the 1st group places the 1st battery under the orders of the colonel of the 72nd for the defence of Grez. The 2nd and 3rd batteries come into action at Moulin de Pierre.

The manœuvres cease for the day at 10.30 a.m.

ENGAGEMENT OF CONTEVILLE.

Red Force.

5th Brigade.—At 6.30 a.m. the 5th brigade, preceded by an advanced guard of two battalions, moves from Conteville on Hétomesnil.

At 7, the brigadier gives the following order to the commander of the 3rd group, 4th divisional artillery :—

"Place two batteries west of Conteville and one battery to the east of that place. I am about to attack Hétomesnil. Support my attack."

Criticism.—The advanced guard of the 5th brigade will not reach Hétomesnil till 8 a.m. Therefore at 7 a.m. the brigadier does not know whether this village is occupied, yet he already brings the 3rd group into action with orders to support the attack.

The artillery should not be engaged until the infantry has encountered serious resistance. Otherwise one is acting in the dark. In this case the result of this over-haste will be that one battery will fire on friendly troops.

The above order is moreover incomplete. It does not state which troops are to carry out the attack, nor who is to command them.

The group commander gives the following order to his batteries :—

"The 1st battery will fire on the village of Hétomesnil, and 50 thousandths to right and left of it. It will send a representative with the commander of the battalion which delivers the attack.

"The 2nd battery will fire on all targets west of the mill at Hétomesnil inclusive.

"The 3rd battery will come into action at the south exit from Conteville. Target, eastern *enceinte* of Hétomesnil, and all targets to the east of it."

From the record of firing of the 1st battery, including seven series, I extract the following :—

1st Battery.—7.35. On infantry marching along the Hamel road.

8.15. Fire in support of 120th regiment, marching on Hétomesnil.

8.20. On artillery which has just appeared on the crest north of Hétomesnil.

9.20. Fire in support of attack on Hétomesnil, which has recommenced.

Criticism.—The group commander is quite right to tell the 1st battery to place itself in tactical connection with the commander of the attacking battalion, but he should have stopped at that. By allotting the battery commander a zone he is inciting him to fire on any target he pleases. He will not fail to do so.

At 7.35 the battery is firing on "infantry marching along the Hamel road." These were units of the 6th, friendly, brigade, marching on Grez. In fact there never were any Blue infantry on the Hamel road.

At 8.20 it fires on the 2nd group, 6th divisional artillery, Blue Force, which had advanced very imprudently, and which the umpires have put out of action. But the 2nd and 3rd batteries are also firing on this group at the same time, the former because it is in its zone, the latter because, though not in its zone, the temptation to fire on artillery is too strong for it.

The 2nd and 3rd batteries fire indiscriminately on infantry and on artillery. These constant changes of target lead to no useful result. It is absolutely necessary that, at autumn manoeuvres, our

gunners should stick to the task assigned to them, and should not indulge in practices which are only admissible as gunnery exercises at a practice camp.

At the moment when the advanced guard enters Hétomesnil from the north, the Blue troops also enter from the south. This results in a confused infantry combat which necessitates the intervention of the umpires. The village is awarded to the Blue Force.

About 8.45 the brigadier of the 5th brigade receives the following order from the General Officer Commanding the Division :—*

"8.25. The cavalry reports definitely that at 7.45 a strong column of infantry, preceded by a battalion marching semi-deployed, crossed the Hétomesnil-Crèvecœur road, coming from Lihus and marching on La Houssaye.

"As soon as the 5th brigade has taken Hétomesnil, it will reconnoitre and attack this enemy marching on La Houssaye."

The brigadier replies to this order by the following report :—

"The colonel of the 120th, commanding the attack on Hétomesnil, reports that my advanced guard have entered this village.

"The umpires have suspended the action at this point till 9.45.

"To guard against any danger from the direction of La Houssaye, I have now ordered the battalion which was flanking the attack on Hétomesnil, in defensive echelon to the left, to halt and form up facing La Houssaye."

Criticism.—This report is complete as regards the infantry, but the situation as regards the artillery is not mentioned. Yet the General Officer Commanding the Division would certainly have required to know whether the 3rd group of the divisional artillery was a sufficient force for the needs of the 5th brigade.

Before this report reaches him, the General Officer Commanding the Division decides to put in the group at his disposal, the 2nd group divisional artillery, to support the 5th brigade.

In consequence, the commander of the 2nd group receives the following order from the colonel commanding the divisional artillery :—

"Bring your group, keeping under cover from the south, to my present station, north-north-east of Rieux. Your task is to oppose the march of the enemy's infantry now issuing from the Hétomesnil-Ovillers road."

Criticism.—The General Officer Commanding the Division here commits three serious errors :

(1) He reinforces the artillery of the 5th brigade without knowing whether this artillery requires to be reinforced.

(2) He does not place the reinforcing group under the orders of the brigadier.

* The same report was sent to the 6th brigade, see above.—Tr.

(3) He orders the commander of the 3rd divisional artillery to instruct the group as to its task.

The instructions given by the commander of the 3rd divisional artillery do not agree with those of his General Officer Commanding.

It will be seen that the whole of the operations are affected by this infraction of Ministerial Circular of 10/3/1910.

At 9 a.m., on receipt of the divisional order of 8.45, the brigadier directs the commander of the 3rd group to send one battery to the east boundary of Conteville, to watch the ground in the direction of La Houssaye.

The group commander sends two batteries instead of one, and gives them the following orders:—

"Take up a position close to Conteville. Your task is to watch:

"3rd battery, the whole zone north of La Houssaye steeple.

"2nd battery, zone to the south."

Criticism.—The brigadier is not aware that the 2nd group has arrived. Therefore all that he can do is to cut the 3rd group in two. This division is not carried out as he ordered it; but it was absolutely necessary.

The 1st battery supports the action to the west; the 2nd and 3rd batteries support the action to the east.

At 9.40 the group commander gives a fresh order to the 2nd and 3rd batteries:—

"Support the counter-attack which the brigadier is directing on La Houssaye."

Criticism.—The group commander might have given more definite instructions regarding this counter-attack. But he is carrying out the general intentions of the brigadier.

At 9.45 the colonel commanding the divisional artillery gives the following order to the commander of the 2nd group:—

"Our infantry is retiring in the neighbourhood of Owillers, Héto-mesnil and Rieux. Place yourself in tactical connection with the colonel commanding the 128th in order to ascertain whether he is about to deliver a counter-attack, and when he is about to resume the offensive."

Criticism.—The colonel of the 3rd divisional artillery, whom his General Officer Commanding has (wrongly) ordered to instruct the 2nd group as to its task, perceives the movement in retreat of the 5th brigade on Rieux. Not knowing what is going on, he causes an officer to be sent to the colonel of the 128th for information.

Since communication through the higher commanders has failed, it is desired to establish communication between the tactical units.

The final result is that the 2nd group intervenes in the western action (see Diagrams VI and VII) without any concert with the 1st battery of the 3rd group, which is already firing in this direction.

APPEARANCE OF THE CORPS ARTILLERY ON THE BATTLEFIELD.

At 7.30 a.m. the commander of the Army Corps, learning of the presence of hostile troops in force in the neighbourhood of Hétomesnil, Lihus and Crèveceur, had ordered the colonel commanding the corps artillery to place himself at the disposal of the General Officer Commanding the 3rd Division, with the 1st and 3rd groups of the corps artillery. Leaving the command of these two groups to his lieutenant-colonel, the commander of the corps artillery himself goes to the General Officer Commanding the 3rd Division. He there meets the commander of the 3rd divisional artillery, who gives him the following orders :—

“ 9.10 a.m. The General Officer Commanding the Division places you under my orders. A column of infantry and artillery is reported, attempting to issue from La Houssaye on Conteville. Select a position on the left of the 2nd group, divisional artillery, which has just come into action north-east of Rieux. From this position you will prevent the advance of these columns, of which the strength has not yet been ascertained.”

Criticism.—The 3rd Division fires its first gun at 7.25, and at 7.30 the Army Corps commander already gives him two groups of the corps artillery. The General Officer Commanding the Division hastens to engage these groups in the neighbourhood of Hétomesnil and La Houssaye. He does not place them under the orders of the brigadier of the 5th brigade, who is in command of this section. It is the commander of the divisional artillery who assigns their task to them, and this task is to co-operate in the action to the east. The colonel of the divisional artillery is ignorant of the fact that only one battery is now in action against Hétomesnil, namely, the 1st battery of the 3rd group.

Finally, the commander of the Army Corps sends both the colonel and the lieutenant-colonel of the corps artillery with the two groups. He should have kept the colonel with him, in order to direct, in case of necessity, the employment of the 2nd group, which is still in reserve, and to arrange for the withdrawal from the action of artillery units, in order to subsequently reconstitute the corps artillery.

At 9.15, in execution of the preceding order, the colonel commanding the corps artillery gives the following order :—

“ 1st group. Come into action on the right of and close to the 2nd group of the 3rd divisional artillery, which is in action near Rieux. Target, hostile infantry issuing from La Houssaye. Endeavour to establish a battery, or at least a section, in the small wood east of Rieux, in order to command the hollows in front of the position. The position of the commander of the corps artillery will be between the 1st and the 3rd groups.

“ 3rd group. Come into action on the left of the 1st group and about 110 yards from it. You will be in observation, as a counter-battery, of the zone between Hétomesnil and La Houssaye.”

Criticism.—The above orders are well in accordance with the intentions of the artillery commander as regards the defence. They express his intentions in detail, providing for the distant defence, the close defence, and the engagement of the enemy's artillery.

But although both the colonel and the lieutenant-colonel are present on the spot, the execution of these orders will differ completely from their intention.

Orders by the commander of the 1st group corps artillery :—

"The whole group will come into action as infantry batteries.

"Support the attack which is being delivered on the edge of the woods north of Hétomesnil.

"The batteries will take up advanced concealed positions, the defilade being such as to conceal a dismounted man, so that a good view of the approaches to the ground covered by the attack is available.

"The 3rd battery will reconnoitre an advanced position for one section, close to the small wood east of Rieux, from which the dead angles can be searched."

Criticism.—The group commander transforms the defensive task in the eastern section, which has been assigned to him, into an offensive task in the western section. Moreover, he fails to state which is the attacking force which he intends to support.

Nevertheless his orders are permeated with the defensive spirit, since he directs that the defilade is to be such as to conceal a dismounted man, in order the better to command the approaches, and since he orders the 3rd battery to find a position *en caponnière*.*

Orders by the commander of the 3rd group, corps artillery :—

"9.50. 1st and 3rd batteries, on artillery, flashes visible west of La Houssaye.

"10 a.m. 3rd battery. Fire on enemy's infantry in the direction of Hétomesnil. (By order of the officer commanding corps artillery.)

"10.25 a.m. 2nd battery. Change target On enemy's infantry east of Hétomesnil.

"10.5 a.m. 1st battery. Extend your front. You will remain a counter-battery.

"10.30. 1st battery. Change target. On artillery, flashes visible east of Hétomesnil ridge." (See Diagrams VI and VII.)

Criticism.—The commander of the corps artillery had designated the whole of the group as counter-batteries. At 10 a.m. he himself orders the 3rd battery to fire on infantry. At 10.45 the group commander transforms another counter-battery into an infantry battery. At 10.30 he changes the target of the 1st battery, which remains a counter-battery.

Thus the artillery at La Houssaye is no longer fired upon. All three batteries are engaged in the western section.

* That is, an advanced flanking position.—Tr.

Red Force.

Brigade of Chasseurs-Zouaves.—The commander of the 2nd Army Corps, on learning of the check experienced by the 4th Division before Sarnois and Grandvilliers, and of the presence of hostile troops in force at Gaudechart and Prévillers, and also that strong columns are marching on Lihus and Crèvecoeur, had at 7.30 a.m. ordered the brigade of Chasseurs-Zouaves, assembled at Lavacquerie, to form up in prolongation of the front of the 3rd Division as far as Choqueuseles-Renards.

The brigadier consequently gives the following order :—

" 8.45 a.m. The task assigned to the brigade is to deny the enemy the line Conteville-Choqueuse-Catheux wood, covering the left of the 3rd Division, which is attacking the front Grez-Hétomesnil.

" The regiment of Chasseurs-Zouaves will advance to the north angle of Conteville wood, and will hold Conteville and the ridge between Conteville and Choqueuse. It will be in touch at Choqueuse with the regiment of Chasseurs.

" The regiment of Chasseurs will advance to the ravine north of Catheux wood, and will hold the southern boundaries of this wood and of Choqueuse.

" The artillery will advance to the ravine south of La Chapelle, and will reconnoitre, on the ridge between Conteville and Choqueuse, emplacements from which it can open fire either in the direction of Hétomesnil or in that of La Houssaye."

In execution of this order, the commander of the 4th group, corps artillery, gives the following order :—

" Come into action between the Conteville-Choqueuse crest. The defilade is to be such as to conceal a mounted man.

" 3rd battery, on the right, as counter-battery, on the artillery behind the ridge west of La Houssaye.

" 1st battery, in the centre, in observation.

" 2nd battery, on the left, as infantry battery, on the infantry conspicuously visible on the slope west of La Houssaye."

About 10.30 the brigade holding Catheux wood advances to attack La Houssaye, in connection with two battalions of the 5th brigade.

At this moment manœuvres cease for the day.

Criticism.—The intervention of the brigade of Chasseurs-Zouaves is only of interest in that it adds one artillery group, the 4th group of the corps artillery, to the four groups already acting with the 5th brigade. These are the 2nd and 3rd groups of the 3rd divisional artillery, and the 1st and 3rd groups of the corps artillery. (See Diagrams VI and VII.)

Two distinct actions were proceeding in this part of the battlefield :

On the west, towards Hétomesnil, an action in which four battalions of the 5th brigade were engaged.

On the east, towards La Houssaye, an action in which two battalions of the 5th brigade and two of the Chasseurs-Zouaves are engaged.

The proper course would have been to allot to each of these actions a certain number of batteries placed under the orders of a single

commander. Instead of this, we see, on each flank, a constantly-varied number of batteries under three different commanders, namely, the brigadier of the Chasseurs-Zouaves, the brigadier of the 5th brigade and the General Officer Commanding the 3rd Division. This latter officer intervenes directly in the combat of the 5th brigade by putting in one group of his divisional artillery and two groups of the corps artillery, which are not handed over to the brigadier.

The only groups which act in tactical connection with the infantry are those which have been handed over to the two brigadiers. The other three groups are carrying on an independent combat on their own account. The artillery are choosing whatever targets they happen to fancy.

This is not the massing of force, such as ensures success ; it is a mob* of disconnected units.

A massed force would have been obtained, with an even smaller number of batteries, if these had been placed under a single commander, subordinate to the commander of the troops. His duty would have been to allot the tasks, and to modify the allotment of these tasks as might be required, instead of allowing the batteries to change their targets as they pleased.

Blue Force.

6th Division.—On the 14th, at 6 a.m., in execution of the operation orders issued by the commander of the 3rd Army Corps, the General Officer Commanding the 6th Division had given the order of which an extract is here reproduced :—

"II. The 11th brigade, with two groups of artillery at its disposal, will attack in the direction Lihus-Hétomesnil.

"It will keep touch with the Colonial Brigade.

"It will leave one regiment at the disposal of the General Officer Commanding the 3rd Army Corps.

"III. The 12th brigade, passing to the west of Crèvecœur, will move on La Houssaye, and will there remain, to await orders, at the disposal of the General Officer Commanding the 6th Division. It will have one group of artillery at its disposal."

Criticism.—At 6 a.m. the General Officer Commanding the 6th Division already gets rid of his artillery, and hands it over to his own brigadiers. He orders the two groups of the corps artillery, which the commander of the Army Corps had placed at his disposal, to move on La Houssaye. At 8 a.m. he hands them over to the 12th brigade.

Moreover, the colonel commanding the 6th divisional artillery, instead of remaining with his divisional commander, goes with his lieutenant-colonel to the 11th brigade.

Thus at 8 a.m. the General Officer Commanding the Division will no longer have at his disposal either any artillery, or any colonel to command it.

11th Brigade.—At 8.15 a.m. the advance guard of the 11th brigade

* "*Une mauvaise agglomération.*"

enters Hétomesnil from the south, and outflanks it on the west, while the enemy's advanced guard enters it from the north.

The brigadier is not aware of this situation, and he gives the following order to the colonel commanding the 6th Divisional artillery :—

“Cause a position to be reconnoitred from which the artillery can support the attack on Rieux.”

The colonel commanding the 6th divisional artillery gives the following order to his lieutenant-colonel :—

“Cause the patrols to reconnoitre battery positions, south of point 189 and point 183, in the ravine west of Hétomesnil, to support the movement of the 24th regiment in the direction of Rieux.”

The lieutenant-colonel gives the following order to the commander of the 3rd group :—

“8.45 a.m. Reconnoitre a position for your group near the mill, with your right on the road, to support an attack of the 24th on Rieux.”

Criticism.—The presence of the colonel commanding the divisional artillery with the 11th brigade only serves to add an additional link to the chain of orders.

The proper post of this senior officer is with the General Officer Commanding the Division, where he would have been “kept informed as to the progress of the different attacks,” as laid down in para. 4, Section 36, Chapter V, of the Regulations of 8/9/1910; where he would have carried out the withdrawals of artillery as laid down in para. 2, Section 29; where, finally, he would have made preparations for the further employment of the artillery, in accordance with the intentions of his General Officer Commanding, as recommended by the third paragraph from the end of the explanatory memorandum.

We shall see immediately that hopeless confusion will arise in the employment of the artillery with the 12th brigade. The colonel will know nothing of this, and will not be in a position to set matters right.

While the group is advancing to position it is surprised, at short range, by the fire of parties of the enemy's infantry who are holding the north edge of Hétomesnil. It is also fired upon by hostile artillery in position west of Conteville. The umpires order it to withdraw to the Hétomesnil-Ovillers ravine where it is to remain neutral till 9.35 a.m.

In the meantime the 1st group of the divisional artillery, which had remained with the main body of the 24th, had been ordered to assemble in the ravine south of Hétomesnil. At 8.30, on reaching the east edge of Fourré wood, the group commander learns that Hétomesnil is occupied by the enemy, and he gives the following orders :—

“Halt, action front. Target, the slopes behind Hétomesnil, reported to be occupied by enemy's reserves.”

The group is in action near the intersection of the lane from Lihus to Hétomesnil and that leading to the east edge of Fourré wood.

One battery opens fire upon parties of the enemy visible north of Hétomesnil. At this moment the umpires award the village to the 11th brigade.

At 9.45, thanks to the support of the 1st group, the 24th regiment is in possession of point 183.

Criticism.—The initiative of the commander of the 1st group has been rewarded by success. But this method of employing artillery must not be taken as a model.

The 1st group should not have been assembled within 1,100 yards of the south edge of Hétomesnil, of which the north edge was still in the enemy's possession. This group might well have experienced the same fate as the 3rd group.

The commanders are, throughout, in too great a hurry to engage their artillery.

It will be noted that the presence of the colonel did not save the batteries from being surprised by the enemy's infantry fire.

The brigadier now prepares to attack the front Rieux-Conteville. But in the meantime the commander of the 1st group has given the following order :—

"9.50. Target, enemy's lines (infantry or artillery) visible north-west of La Houssaye, in the direction of Conteville and Choqueuse."

The 3rd group, whose period of neutrality had now expired, was about to come into position at point 183 when the manoeuvres ceased for the day.

Criticism.—On this occasion, the initiative of the group commander is altogether indefensible. The target upon which he fires is that of the 12th brigade, which has already three groups at its disposal, and he neglects the numerous hostile artillery on the front between Conteville and Rieux, which front is assigned to the 11th brigade, to which he is attached. (See Diagrams VI and VII.)

The artillery are only too ready to yield to the temptation of firing on the most conspicuous target.

12th Brigade.—About 8 a.m. the 12th brigade arrives at La Houssaye, where it receives the following order from the General Officer Commanding the Division :—

"Considerable bodies of the enemy have been reported marching from Conteville to the south-west. The 12th brigade will attack. General direction, La Houssaye, Les Mesnil-Conteville.

"The two groups of the corps artillery are at the disposal of the 12th brigade."

At 8.30 the brigadier gives the following combat order :—

(Extract.)

"The 5th infantry regiment (two battalions) with the 2nd group, divisional artillery, under the orders of the colonel commanding the 5th regiment, starting from La Houssaye, will attack vigorously in

the direction of Le Mesnil-Conteville, keeping touch on the left with the 11th brigade.

"The 119th and two groups of the corps artillery will be in brigade reserve behind the right of the 5th regiment."

The colonel commanding the 5th regiment gives the following order to the commander of the 2nd group :—

"Support the attack of the 5th, at first upon Conteville, afterwards upon Le Mesnil-Conteville."

In compliance with this order, the commander of the 2nd group comes into position behind the ridge north-east of La Houssaye. His batteries are in observation of zones east of Conteville steeple. Two batteries open fire as infantry batteries upon hostile infantry which appears in their zones.

The General Officer Commanding the Division is at this moment at La Houssaye. At 9.20 he orders the brigadier "to push forward with great vigour on Conteville."

The brigadier then gives the following order to the lieutenant-colonel of the corps artillery, who is with the 1st and 2nd groups :—

"9.25. Reinforce the artillery of the advanced guard with one group of the corps artillery. The advanced guard is under the command of the colonel of the 5th regiment.

"The other group of the corps artillery will remain at my disposal."

The lieutenant-colonel details the 2nd group to remain at the disposal of the brigadier. He himself goes to the colonel of the 5th regiment, and, at 9.45, he gives the following order to the commander of the 1st group, corps artillery :

"There is a line of artillery 100 thousandths left of Mesnil-Conteville steeple, and lines of infantry to the right of and in front of Mesnil-Conteville. Bring one battery into action as a counter-battery, and two as infantry batteries, on the position where I now am, to right and to left of me. Open fire as soon as possible."

Criticism.—The lieutenant-colonel of the corps artillery did very well to accompany the group sent up as a reinforcement, and to report himself for orders to the colonel of the 5th, commanding the advanced guard. But he should have taken possession of the 2nd group of the 6th divisional artillery, already engaged. He should have enquired its target, what it was doing, and what remained to be done ; and he should have re-distributed the tasks between the old batteries and the fresh ones, disturbing the tasks of the former as little as possible.

The group already engaged had one counter-battery and two infantry batteries. The lieutenant-colonel might have detailed two, or three, counter-batteries, and placed them alongside the first one, organizing two provisional groups, one of counter-batteries and the other of infantry batteries. The commander of the group of counter-batteries would have kept the whole foreground under observation. The commander of the group of infantry batteries would have placed himself in tactical connection with the colonel of the 9th, whose instructions would have enabled him to allot his tasks. Each of those

commanders would have reported in case he required reinforcements. The lieutenant-colonel would then have demanded a third group, whose task would have been easy to assign, since the reason for which it was called up would have been known.

Owing to the lack of this organization of command, the objective of the attack was fired upon by four infantry batteries, two belonging to one group and two to another, which would have rendered it very difficult to maintain the tactical connection between the two arms. (See Diagram VI.)

At 9.50 a.m. the brigadier sends the following order direct to the 2nd group, corps artillery:—

"Get into action on the right of the 1st group, corps artillery, to reinforce the divisional artillery. You will again come under the orders of the lieutenant-colonel of the corps artillery."

Criticism.—The 2nd group, to which no definite task has been allotted, engages itself according to its own fancy. All three batteries become infantry batteries, and they distribute their fire over a front of 1,500 yards (see Diagram VII). The attack on Conteville is supported by seven infantry batteries belonging to three different groups.

It is not till 10 a.m. that it occurs to the brigadier of the 12th brigade to organize the command of all this artillery. With this intention, he gives the lieutenant-colonel of the corps artillery the following order:—

"10 a.m. The second group of the corps artillery has come into action on the right of the first group. You will take command of the three groups now engaged."

On receipt of this order, the lieutenant-colonel of the corps artillery makes enquiries as to the targets of the batteries, "in order to endeavour to make a suitable distribution of the fire of the nine batteries over the front of attack of the 12th brigade."

The manoeuvres cease for the day while this is being carried out.

Criticism.—At last the lieutenant-colonel endeavours to do, but under far more difficult conditions, that which he should have done at the outset. It is astonishing that not one of the three commanders present should have felt the necessity for this organization of the command at an earlier stage. Yet these troops had been in possession of Ministerial Circular of 10/3/1910 for five months.

According to Army Corps orders, the 4th group of the corps artillery was to remain in reserve with the 28th regiment at the disposal of the General Officer Commanding the 3rd Army Corps.

At 6.30 a.m. the General Officer Commanding the 6th Division sends the following order to the colonel commanding the corps artillery:—

"The group in reserve will proceed immediately to La Haute-Épine, where the General Officer Commanding the Division will give it its orders."

The colonel commanding the corps artillery replies :—

" 7.25 a.m. The colonel has received no orders to the effect that the group has ceased to be at the disposal of the commander of the Army Corps. He cannot therefore execute the order forwarded by the General Officer Commanding the 6th Division, without referring it to the commander of the Army Corps."

At 10 a.m. the Army Corps reserve having been moved, the 4th group of the corps artillery was in a position of readiness south of Hétomesnil. It there receives from the commander of the Army Corps the following order :—

" 10 a.m. Your group again comes under my direct orders."

Criticism.—The above orders show, once more, how little many officers know about the functions of the different commanders. The General Officer Commanding the 6th Division had no right to give orders to the colonel commanding the corps artillery, and certainly he had no right to dispose of the 4th group of the corps artillery, which was in Army Corps reserve.

The commander of the Army Corps need not have informed this group that it was again to come under his orders. The group was not under the orders of the colonel of the 28th except for discipline.

The order of the commander of the Army Corps continues thus :

" You will take up a position on the ridge east of Hétomesnil, to support the attack of the 6th Division.

" The objective of the attack of this Division is Conteville.

" You will engage the artillery which is appearing to the east of the village."

The group takes up a position at 10.30 to the east of Hétomesnil, on the Hétomesnil-Catheux wood ridge.

The group commander gives the following orders :—

" 1st battery. Target, south edge of Conteville, 80 thousandths east of the steeple.

" 2nd and 3rd batteries. Engage enemy's artillery in action on the ridge east of Conteville. Range, 3,300 yards, front 60 thousandths."

Criticism.—The commander of the Army Corps should not have engaged the 4th group of the corps artillery himself, but should have handed it over to the General Officer Commanding the Division, who would have assigned a task to it. Lacking definite instructions, this group directs the fire of one battery, as infantry battery, on Conteville, without any tactical connection with the infantry ; and it directs two batteries, as counter-batteries, upon the target already engaged by two batteries of the 2nd group, 6th divisional artillery, and the 1st group, corps artillery. Thus the same Red group is fired upon, as shown by Diagram VII, by four counter-batteries belonging to three different groups.

Diagram VII moreover shows that not one of the four Red groups in action on the Conteville-Rieux ridge has a single shot fired at it. This is because the 2nd group, 6th divisional artillery, happens at this moment to have been put out of action by the umpires. As for the 1st group of the 6th divisional artillery, it has inconsiderately engaged

the whole of its batteries as infantry batteries firing on Conteville, abandoning the 11th brigade, which was attacking the front Conteville-Rieux. This situation is the more serious that the whole of the artillery of the Blue Force is now expended.

Finally, the attack on Conteville is supported by eleven infantry batteries under the orders of three different commanders, namely :

Seven under the command of the lieutenant-colonel of the corps artillery, who is under the orders of the brigadier of the 12th brigade ;

One under the direct command of the commander of the Army Corps ;

Three under the command of the colonel of the 6th divisional artillery, under the orders of the brigadier of the 11th brigade.

During the whole of this time the colonel commanding the 6th divisional artillery, whose place was with the General Officer Commanding the Division, and whose duty it was to make a suitable distribution of the tasks between the six groups then at the disposal of the division, is at Hétomesnil with only two groups.

It would be difficult to find a more striking example of the evil consequences which result from forgetting the proper functions of the colonel commanding the artillery.

16TH SEPTEMBER.

(Diagrams VIII, IX, X, XI, XII, XIII, XIV and XV.)

GENERAL SUMMARY OF THE MANŒUVRES OF THE 14TH.

On the afternoon of the 15th the commander of the Blue Force had received, from the commander of the disembarking force, an order to disengage his force as soon as possible and to withdraw to the left bank of the Thérain, taking steps to ensure his effecting a junction, near Songeons, with the reinforcing troops which were to reach Gournay on the 17th.

Consequently, on the 15th, at 4 p.m., the General Officer Commanding the 3rd Army Corps decides to evacuate the ground in front of the enemy by a night march, protected by three flank guard detachments. These detachments include the following artillery :—

Right detachment, the 1st group, 6th divisional artillery.			
Centre	„	2nd	„ „ „
Left	„	2nd	„ „ corps artillery.

The operations of these three detachments present no interest as regards the employment of artillery. I only mention them to show what became of the 1st and 2nd groups of the 6th divisional artillery, which, as will be seen, afterwards rejoined their division.

As for the 2nd group, corps artillery, it is put out of action on the 16th, at 11 a.m., and does not re-appear on this day.

The combat is therefore continued by the 3rd Army Corps with only nine groups of artillery.

In execution of the orders given by the commander of the Blue Force, the 3rd Army Corps halts, about 8 a.m., on the line Morvillers-

Grémévillers-Frétoy. The 5th Division is on the west of the front occupied; the 6th division is on the east. The Colonial Brigade is assembled north-east of Songeons.

The Red Force has orders to take the offensive in the general direction of Gournay, where it is to be joined by two (imaginary) Army Corps from the Army of Paris.

The encounter of the two forces will result in a battle in the neighbourhood of Morvillers, fought by the 6th brigade, with some troops of the 5th brigade, against the 5th Division.

The brigade of Chasseurs-Zouaves and the 4th Division, on the north, the 6th Division and the Colonial Brigade on the south, will not take part in any serious engagement.

I will therefore describe the whole of the operations of the 3rd Army Corps before proceeding to those of the 2nd Army Corps; and, as regards the 3rd Army Corps, I will divide my remarks into two parts:

From 6 a.m. to noon, defensive operations of the 3rd Army Corps.

From noon to 3 p.m., offensive of the 3rd Army Corps.

3rd Army Corps (Blue).

From 6 a.m. to noon. 5th Division.—At 6.35 a.m. the commander of the Army Corps had sent to the General Officer Commanding the 5th Division an order in the following terms:—

"The enemy's intention appears to be to operate on my right flank.

"On receipt of the present order, move the forces under your command, by the shortest road, to Séronville, where they will remain at my disposal. Leave only a detachment at Loueuse, and withdraw your left flank to point 204 and the hill between Morvillers and Beaulieu.

"Withdraw the Boutavent detachment."

And, later, at 7.55:

"The left of the 6th Division occupies Grémévillers inclusive. The 5th Division will relieve the detachment of the 6th Division occupying Le Mesnil Valeran.

"The front of the 5th Division will therefore be Grémévillers (exclusive)—Le Mesnil Valeran—Morvillers—point 204—point 188."

According to a report rendered by the commander of the 3rd group, 5th divisional artillery, at 9 a.m. a staff officer of the 3rd Army Corps took charge of this group at the assembly of the Division south of Séronville, and himself led it into position east of Morvillers, on the Mesnil Valeran road, assigning as its task to watch the zone between point 185 and Marseille-le-Petit. (See Diagram VIII.)

This group is not placed under the orders of any infantry commander. At 9.40 one of the batteries of this group fires upon sheaves of corn which it mistakes for infantry in line of company columns.

About noon the group commander, not feeling safe, takes upon himself to retire. We shall meet with him again near Morvillers.

Criticism.—The three groups of the 5th divisional artillery were included in the troops under the command of the General Officer Commanding the 5th Division, which were detailed to remain in Army Corps reserve south of Séronville. The commander of the Army Corps had therefore the right to dispose of the 3rd group; but he should not have assigned to it a task independent of the infantry.

Finally, this group is forgotten both by the General Officer Commanding the Division from whom it has been taken, and by the commander of the 3rd Army Corps, who believes that it still belongs to the General Officer Commanding the Division.

This is the first of several similar incidents which occur on the 16th, owing to want of organization of command.

At 11.30 the General Officer Commanding the 5th Division receives the following order from the commander of the Army Corps:—

"The reports received show that a hostile brigade is between St. Maur and Thieuloy. Another brigade appears to be moving by Feuquières on St. Arnoult. All the troops of the 5th Division now in reserve at the disposal of the commander of the Army Corps are replaced at the disposal of the General Officer Commanding the 5th Division. You will hold yourself in readiness to repulse any attacks coming from the direction of Thérines and of Omécourt."

In execution of this order, the General Officer Commanding the 5th Division gives, at 11.35, the following order:—

"The 10th brigade will be entrusted with the defence of the line Mesnil Valeran (inclusive)—Morvillers—point 204—Beaulieu.

"It will have at its disposal the 129th regiment, the 36th regiment, and the group already in position west of Mesnil Valeran.

"The two other groups are at the disposal of the General Officer Commanding the 5th Division, with the detachments of the 74th and 39th now south-west of Séronville."

At 11.45 the brigadier of the 10th brigade gives the following order:—

"The 10th brigade, with the 3rd group of the divisional artillery, is entrusted with the defence of the line Le Mesnil Valeran (inclusive)—Morvillers—point 204—Beaulieu.

"The 129th will hold, with its two battalions in the 1st line, Mesnil Valeran—Morvillers. It will have at its disposal its 3rd battalion and one battery, for the defence of the front Morvillers (inclusive)—Mesnil Valeran.

"The 36th regiment, of which one battalion is holding Beaulieu and point 188, will move its two other battalions to Riffin, at the disposal of the brigadier.

"The other two batteries will be in reserve at the exit from Riffin, with one company of the 36th as escort."

Thus the brigadier of the 10th brigade believes that he has a right to dispose of the 3rd group. Now, at 11.50, the colonel commanding

the divisional artillery informs the second group that it is "placed under the orders of the brigadier of the 10th brigade."

Criticism.—The order given at 11.45 by the brigadier does not say who is to command the two tactical units thus constituted.

On the other hand, the brigadier believes that he has a right to dispose of the 3rd group, which has never ceased to belong to the 5th Division. The commander of the 5th divisional artillery thinks otherwise, since he believes that this group is at the disposal of the commander of the Army Corps. This shows that the orders are badly framed, and that the commanders on the ground are not adhering to their own proper functions.

The consequence of this misunderstanding is that the brigadier has two groups at his disposal instead of one, an error of one unit of which the consequences will be manifest shortly.

Finally, the commander of the 5th divisional artillery exceeds his functions by himself posting a battery of the 1st group which duplicates the task of the 2nd group, posted by the brigadier.

The commander of the 2nd group orders it to move to the south of the Limermont-Morvillers ridge, and to reconnoitre positions to fire on the front Beaulieu-Morvillers.

The 2nd group brings one battery into action south-west of Séronville, in observation of a zone extending from Morvillers steeple on the right to Limermont farm wood on the left, in order to repulse any attack in this zone. The two other batteries are kept in reserve.

Thus the 1st group is the only group still in hand at Séronville.

At 12.5 p.m. this group receives an order, direct from the commander of the divisional artillery, to bring one battery into action at the south exit from Séronville, its task being to watch the south-east edge of Morvillers and the ridge between point 204 and point 188 (north-west of Morvillers), and to be ready to intervene in the Riffin valley, and on the ridge to the south, against hostile cavalry reported near Loueuse.

6th Division.—At 11 a.m. the General Officer Commanding the 6th Division gives the following order with a view to organizing the defence of his position :—

"One battalion will occupy Grémévillers, and will prepare it for defence.

"The brigadier of the 11th brigade, who has three battalions and one group at his disposal, will place Frétoy in a state of defence and will occupy Choqueuse with one battalion.

"The 28th regiment will move to the west of Cagny wood and will occupy it. It will detach one battalion to Crillon to cover the right flank of the division."

During the morning of the 16th the commander of the corps artillery, considering that the 3rd group of the divisional artillery was not sufficient, had placed the 1st group of the corps artillery at the disposal of the 6th Division.

At 7 a.m. the lieutenant-colonel of the 6th divisional artillery himself posts this group east of Séronville, with a zone of observation as shown in Diagram VIII, but without placing it at the disposal of any infantry commander.

Criticism.—The commander of the 1st group, corps artillery, knowing nothing of the situation, opens fire at 8.45 on infantry appearing at a range of 4,200 yards on the road from Marseille to Choqueuse. This was the centre flank guard of his own force, which was rejoining the 6th Division.

At 6.55 the 3rd group of the divisional artillery, which, throughout the morning, was the only group at the disposal of the General Officer Commanding the 6th Division, received from the colonel commanding the divisional artillery the following order :—

“Reconnoitre and occupy :

“A position for one battery at the south-east exit from Frétoy, to fire on the north-east outskirts of Frétoy.

“A position for one battery and one section north-west of Tierson wood, to fire on the neighbourhood of Polhay and Villers.

“A position for one section north of Crillon park, enfilading the ravine.

“This section is covered by one battalion, which is occupying Crillon and the park. There is one battalion with a machine gun in front of Cagny wood. On the right, Payen wood is held by our cyclists, and there is one battalion of the 28th south-west of Cagny wood. Two battalions, in divisional reserve, are west of Cagny wood ; one battalion of the 24th holds Frétoy, and the interval between Frétoy and Grémévillers is guarded by the 24th. On your left there is one group of the corps artillery at Séronville.”

Criticism.—Once more the 3rd group is posted by the colonel of the divisional artillery, without being placed at the disposal of any infantry commander. The group commander knows so little about the situation that at 8 a.m. one of his batteries opens fire upon infantry issuing from the Rue du Bois. This is again the centre flank guard rejoining its division.

When we read the above order, we wonder what may be the use of this long enumeration of the positions of the infantry. It was of no service to the commander of the group to which it was addressed. The best proof of this is that, except when it fired on its own infantry, the group did nothing during the whole day.

Many artillery officers are still under the thrall of para. 680 of the Regulations of 8/6/1903, which used to lay down that “a knowledge, as complete as possible, of the situation, and a close study of the ground” will enable the group commander, without any other instructions, “to come to the assistance of the other arms.”

At 8.35 the 2nd group of the 6th divisional artillery, which had been marching with the centre flank guard, under the orders of the brigadier of the 12th brigade, arrives at Choqueuse from Marseille-le-Petit. Choqueuse was held by one battalion of the 24th. To

cover the retreat of its infantry, this group comes into action as follows :—

“1st battery, north of the National road near the entrance to Choqueuse, commanding the slopes north of the road.

“2nd battery, at Mare aux Sangsues, to command the slope between the road and 550 yards right of the road.

“3rd battery, south of Mare aux Sangsues, in observation towards Villers-sur-Bonnières steeple, on a front of observation of 550 yards, of which 110 yards is to the left of the steeple.”

At 8.55 the General Officer Commanding the 6th Division, considering the task of the centre flank guard as terminated, gives the following order to the brigadier of the 11th brigade :—

“The two battalions of the 119th regiment, in reserve at Balleux, will move to the west of Cagny wood, where they will be re-joined by the two rear-guard battalions.

“These four battalions will be under the orders of the brigadier of the 12th brigade.

“The 2nd group, 6th divisional artillery, is again under the orders of the colonel commanding the 6th divisional artillery.”

At 9.35 the commander of the 6th divisional artillery, accompanied by his lieutenant-colonel, arrives at the position of the 2nd group, and “approves of the dispositions made by the group commander.”

At 11 a.m. the General Officer Commanding the Division gives the following order to the brigadier of the 12th brigade :—

“Two battalions of the 119th, and two battalions of the rear guard, will form the general reserve of the division, west of Cagny wood, and are placed under your orders.

“The artillery will move to Balleux, where they will receive instructions from the colonel commanding the divisional artillery.”

Criticism.—Diagram VIII shows that the zone of observation of the 2nd group of the divisional artillery overlaps those of the 1st group corps artillery, and 3rd group divisional artillery. This is not surprising. The commander of the 2nd group, when he made such dispositions as he considered suitable for covering the retreat of the centre flank guard, could not possibly be acting in concert with the commander of the divisional artillery, who was making dispositions of his own on this flank. It is astonishing that the commander of the divisional artillery, when he took the 2nd group under his command, did not modify the allotment of the zones of observation.

What is more astonishing is the disagreement between the orders given by the commander of the divisional artillery at 9.35 and those given by his General Officer Commanding the Division at 11 a.m. This disagreement is due to the habit which the colonel commanding the 6th divisional artillery has acquired of wandering about with his lieutenant-colonel, instead of remaining with his General Officer Commanding.

Finally, as usual, we find that no tactical connection is established between the 2nd group and the battalion at Choqueuse. The two arms are each fighting on their own account.

General Remarks.—Para. 640 of Regulations of 8/6/1903 lays down that, on the defensive, emplacements for the probable positions of artillery are to be prepared "without occupying them."

Para. 13, Chapter V, of Regulations of 8/9/1910, lays down that the number of batteries to be deployed at the outset is limited by the uncertainty which must prevail as to the direction in which the enemy will attack.

Therefore the General Officer Commanding the 6th Division should not have deployed, early in the morning, the two groups at his disposal, and he should not have interposed the 2nd group between them when the flank guard came in. This error is the more serious that, on this front of $4\frac{1}{2}$ miles, it will be very difficult to withdraw batteries when the want of them is felt elsewhere. It will be especially difficult to organize the resumption of the offensive. This will be evident from the account of the subsequent operations.

From noon to 3 p.m. 5th Division.—At noon the commander of the 3rd Army Corps sends the following order to the General Officer Commanding the 5th Division :—

"The 9th brigade* appears to be in danger in the direction of St. Deniscourt. Deliver a counter-attack on Thérines to assist its retreat."

The Divisional Artillery joins in the Combat.—The General Officer Commanding then sends the following order to the brigadier of the 10th brigade, who receives it at 12.30 p.m. :—

"The 9th brigade is in a very critical situation near Thérines.

"The brigadier of the 10th brigade, with the troops at his disposal, will counter-attack in the direction of Monsure wood, to extricate the 9th brigade. Two groups of the 5th divisional artillery are placed at his disposal."

The brigadier of the 10th brigade gives the following order :—

"I. To the artillery. Move to point 204. You are covered by infantry in position.

"Prepare the advance of the two reserve battalions, with which I am about to deliver a counter-attack in the direction of Monsure wood.

"II. To the colonel of the 36th (commanding the two reserve battalions). Deliver the counter-attack as ordered by the General Officer Commanding the Division."

In compliance with this order, the colonel commanding the divisional artillery orders his lieutenant-colonel to take command of the 1st and 2nd groups and to move them to point 204.

The lieutenant-colonel rides ahead of his batteries. When he reaches point 204, he meets the general commanding the artillery of the Army Corps, who informs him as to the very critical situation of the defenders of Morvillers, and points out to him the position

* Detachments of the 9th brigade formed part of the centre flank guard.

which the 3rd group of the divisional artillery has occupied, by his orders, in order to fire on the exits from Monsure wood.*

The lieutenant-colonel communicates to the general commanding the artillery the task with which he has been entrusted by the brigadier of the 10th brigade. The general commanding the artillery, considering that this task is in accordance with that with which he himself has been entrusted by the commander of the Army Corps, takes the three groups of the divisional artillery under his own command.

Note.—To avoid confusing this account, which is already difficult to follow, I abstain from reproducing the orders given to the batteries. The confusion which prevails as regards their lines of fire is the result of the confusion in the organization of the command. Some idea of this confusion may be formed from Diagrams XII and XV, which show how the zones of observation overlap. Diagram XIII shows, among other things, that the 1st group of the 3rd (Red) divisional artillery is fired upon by three counter-batteries belonging to three different Blue groups.

Criticism.—The order given by the General Officer Commanding the Division is not in accordance with that given by the commander of the Army Corps. The latter directs that the attack is to be on Thérines, while the divisional commander orders an attack on Monsure. We shall see directly that the objective of the attack is again changed. The Army Corps commander afterwards directs that the attack is to be on St. Deniscourt.

The official situation of the 1st and 2nd groups of the 5th divisional artillery is perfectly clear. These groups are under the orders of the lieutenant-colonel, and at the disposal of the brigadier of the 10th brigade. The presence on Morvillers plateau of the general commanding the artillery of the Army Corps, sent there by the Army Corps commander "to organize the command of the artillery," has upset everything. From the moment when the general commanding the artillery took command of the 1st and 2nd groups of the 5th divisional artillery, he should have placed himself under the orders of the brigadier of the 10th brigade. But then he would have been usurping the functions of the lieutenant-colonel of the 5th divisional artillery, upon whom this command properly devolved; the more so that, in the intention of the Army Corps commander, the 3rd group had never ceased to belong to the General Officer Commanding the Division.

As a matter of fact, the 3rd group should never have been placed under the orders either of the lieutenant-colonel of the 5th divisional artillery or of the general commanding the artillery. It should have been under the orders of the infantry commander who was defending Morvillers plateau, "whose situation was very critical," in the words of the general commanding the artillery himself.

* It will be remembered that the 3rd group, divisional artillery, finding itself no longer safe at Mesnil-Valeran, where it was not under the orders of any commander, had, on its own account, retired from this position. At Morvillers it had met an officer of the staff of the artillery commander, who had sent it to point 204. (See account of operations of 5th Division on the morning of the 16th.)

The Corps Artillery joins in the Combat.—At noon the general commanding the artillery of the Army Corps gives the following order to the colonel commanding the corps artillery :—

“The 1st, 3rd and 4th groups of the corps artillery are re-placed under your command, at my immediate disposal. The three groups will move at once to the south of Morvillers, behind the village.”

Criticism.—The 3rd and 4th groups had never ceased to be at the disposal of the commander of the Army Corps. As for the 1st group, it had been handed over, in the morning, to the 6th Division. It was unable to comply with the order of the general commanding the artillery.

The colonel and the lieutenant-colonel of the corps artillery ride ahead of their groups to Morvillers plateau, where they find the general commanding the artillery. This officer orders them to bring the 3rd and 4th groups of the corps artillery into action on the left of the 1st group, 5th divisional artillery, their task being “to support all troops issuing to the west of Morvillers towards St. Deniscourt and Omécourt.”

After some delay, the six batteries come into action, and they are allotted zones of observation (see Diagrams XII and XV) in which they select their own targets.

Criticism.—It might be supposed that this operation has to do with the counter-attack ordered by the Army Corps commander. But this is not the case. The battalions detailed to execute it have not yet arrived. It is merely a preparation for the support of a projected attack by troops which have not been detailed to execute it, and never will be. The General Officer Commanding the Division, the officer in command of the whole of the troops operating on the Morvillers plateau, has not even been informed that the corps artillery have been brought up.

Thus we see that this artillery has been deployed without any task to execute. So much is this the case, that the lieutenant-colonel of the corps artillery reports that “finding himself rather ‘in the air,’ he placed himself in tactical connection with the commander of the infantry defending Loueuse, which was the dangerous point of his position.”

Organization of the Command of this Mass of Artillery.—Finally, we find five groups deployed on Morvillers plateau, with three distinct tasks :

- (1) The 3rd group, divisional artillery, defending the plateau.
- (2) The 1st and 2nd groups, divisional artillery, supporting the counter-attack on Thérines* ordered by the commander of the Army Corps.
- (3) The 3rd and 4th groups of the corps artillery, ordered to support any troops which may issue to the west of Morvillers towards St. Deniscourt and Omécourt.

* The objective of the attack will shortly afterwards be changed to St. Deniscourt.

Criticism.—The general commanding the artillery was not ordered to take command of these five groups, but to “organize the command.” He should therefore have limited himself to defining the tasks of these groups, and placing them in tactical connection with the infantry commanders entrusted with the same tasks. Not only has he failed to do this, but it will be seen immediately that these groups have not even adhered to the tasks assigned to them.

Execution of the Counter-Attack Ordered by the Army Corps Commander.—The two battalions of the 36th regiment detailed for the counter-attack start from Séronville at 11.45, and do not arrive on the plateau till 1.40. The three groups of the divisional artillery are already there. The battalions assemble behind the 3rd group.

The brigadier of the 10th brigade learns that Monsure wood, which the General Officer Commanding the Division had ordered him to attack, has already been attacked at 12.30 by portions of the 129th and 74th regiments (I will refer to this attack shortly); that the 129th regiment has entered this wood, and that the umpires have ordered it to retire from the wood. He therefore considers it necessary to ask for fresh orders from the commander of the Army Corps, who, at 2 p.m., orders him to attack St. Deniscourt. He therefore gives the following orders:—

“2 p.m. Order to the artillery (two groups of the corps artillery and one group of the 5th divisional artillery). The 36th regiment (two battalions) is delivering an attack on St. Deniscourt. Prepare and support this attack. The group of the 5th divisional artillery will act as a group of accompaniment. It will leave one battery to fire on the plateau between Monsure wood and St. Deniscourt, and will move two batteries to the south of Monsure wood to fire upon the edge of St. Deniscourt and on point 181.

“2.15 p.m. To the corps artillery:

“The II/36 will cover the left flank of the troops engaged in the attack on St. Deniscourt, watching the direction of Omécourt. Place the batteries in reserve in observation in this direction.”

In execution of this order, of which one paragraph prescribes that a watch is to be kept in the direction of Omécourt, and perhaps remembering the order previously given him by the general commanding the artillery to support any troops which might issue from the west of Morvillers towards St. Deniscourt, the lieutenant-colonel brings the 3rd group into action facing St. Deniscourt and the 4th group facing Omécourt, and orders the latter “to support the attack which one brigade is about to deliver upon Omécourt.”

Criticism.—I have never been able to discover what were the circumstances which led the brigadier of the 10th brigade, at whose disposal the General Officer Commanding the Division had placed the 1st and 2nd group of the divisional artillery by a written order received at 12.30 p.m., to give orders to three groups, two belonging to the corps artillery and one to the divisional artillery. In the explanations which, at my request, the different commanders furnished after the manœuvres, they throw the blame for this misunderstanding upon each other. However, this mistake actually occurred, and it is a serious one. •

It results from everybody giving orders, so that the same unit receives orders from several different commanders.

It is also curious to see how the order to attack Thérines, originally given by the commander of the Army Corps, is successively transformed by the General Officer Commanding the Division, by the commander of the Army Corps himself, and finally by the colonel of the corps artillery, into an order to attack, first Monsure, then St. Deniscourt, and finally Omécourt.

A more serious matter is that these fifteen batteries (which might have been reduced to six, since they were only opposed to two battalions, and seven batteries) occupy a front of over a mile, and that without a sufficient interval between the groups. The two battalions delivering the counter-attack are obliged to pass through the 3rd group of the divisional artillery, which has to cease fire.

Counter-Attacks delivered to the East of Morvillers.—At about 12.30 p.m. other counter-attacks were delivered to the east of Morvillers, by portions of the 129th and 74th regiments.

That of the 129th was not supported by artillery, since no tactical connection was established between the artillery at point 204 and the defenders of Morvillers.

The attack of the 74th was supported by artillery, but this was a piece of good luck. It will be remembered that the 1st group of the corps artillery, which had that morning been placed at the disposal of the 6th Division, had, at about 12.30, been called up to Morvillers plateau by the commander of the Army Corps. It was about to carry out this order when, at 12.45, it received a fresh order "to remain in position at point 182, and to place itself at the disposal of the colonel of the 74th in order to support his counter-attack on Épaty."

Criticism.—This is the first occasion, during this day's manoeuvres, upon which a mixed tactical unit is organized to carry out a definite task. But it will be agreed that it would have been better if this unit had been organized by the General Officer Commanding the Division himself, with the troops of his own division. The commander of the Army Corps is too far distant from the regiments and from the groups to combine them judiciously.

Colonial Brigade.—At 12.20 p.m. the commander of the Army Corps orders the Colonial Brigade to attack in the direction Mesnil Valeran-Mont Aubert.

This attack is of no present interest, since it was not supported by artillery.

Criticism.—Not a single group of artillery remains to support the attack of the Colonial Brigade.

This is the result of the lavish and unnecessary expenditure of artillery on Morvillers plateau.

6th Division.—At 12.5 p.m. the commander of the Army Corps sends the following order to the General Officer Commanding the 6th Division :—

"Two divisions of the enemy are close at hand in the zone Thérines-St. Maur-St. Arnoult. The 6th Division, leaving covering detachments in Frétoy, Choqueuse and Grémévillers, will concentrate all its forces behind these supporting points with a view to an attack in the general direction of St. Maur. It will place one group at the disposal of the Army Corps, which is to be sent as soon as possible to the cross-roads at Balleux."

In compliance with this order, the 12th group of the corps artillery is replaced at the disposal of the commander of the Army Corps. The 1st group, 6th divisional artillery, which has rejoined with the right flank guard, replaces the 2nd group, in observation near Choqueuse. The 2nd group of the divisional artillery is placed at the disposal of the brigadier of the 12th brigade, who is in command of the attack. This substitution takes a certain amount of time. It gives rise to delays, of which the result is that the 2nd group of the divisional artillery makes a circuit round Grémévillers, and halts in a hollow where it remains till the end of the day. The attack of the 12th brigade is therefore not supported by artillery.

Criticism.—If the 6th Division had not deployed, at the outset, without any definite task, and upon a front of $4\frac{1}{2}$ miles, the three groups which had been at its disposal throughout the morning; if it had kept one, or two, groups limbered up as recommended by the last paragraph of Section 9, Chapter V, of Regulations of 8/9/1910, it would not have been necessary to upset the whole command in order to procure the necessary artillery to support the attack of the 12th brigade. It was due to the premature deployment of the artillery that this attack was unsupported.

General Remarks.—To sum up, of the nine groups which were at the disposal of the 3rd Army Corps from noon onwards:

Five were employed on Morvillers plateau, where two would have sufficed, namely, one to co-operate in the defence of the position and one to support the counter-attack;

One supports the attack of the 74th;

One is intended to support the attack of the 12th brigade, but does not fulfil its task;

Two are deployed facing east without any tasks.

Thus only one-third of the artillery of the 3rd Army Corps is usefully employed.

2nd Army Corps (Red).

At 1.30 a.m. the commander of the 2nd Army Corps learns that one battalion of the Blue Force has moved towards the west from Grandvillers. He concludes from this that the retreating enemy is retiring on Formerie, and he fixes the direction of the movement of his Army Corps in accordance with this supposition. As a result of his error of direction, the 4th Division finds nothing in front of it. The brigade of Chasseurs-Zouaves is not engaged, and the whole of the fighting falls on the 3rd Division.

I shall therefore only briefly refer to the 4th Division.

I shall, moreover, pass over without comment, as being of no artillery interest, the incident which occurred with the 3rd Division at Thérines, where portions of seven different infantry regiments were mixed together.

3rd Division.—The 3rd Division marches in a single column, the 6th brigade leading with the 2nd group. The 1st group, the 3rd (which is reduced to one battery, the two others being detached) and the 2nd group of the corps artillery, handed over to the division on the previous day, march with the 5th brigade, which is reduced to one regiment. Thus the General Officer Commanding the Division has his artillery well in hand, which will enable him to engage the whole of it to support the attack on Morvillers, though the 2nd group, corps artillery, will not be employed. Thus seven batteries will take part in the combat.

The advanced guard is ordered to attack in the general direction of Hétomesnil, Gaudechart, St. Maur. As soon as the advanced guard has passed Conteville, the brigadier orders the 2nd group to deploy one battery to the south of the village to cover the march of the infantry.

This order is carried out; the other two batteries follow the column.

Criticism.—The artillery should not be engaged till the infantry has experienced some resistance, or till definite reports show that this resistance is about to be experienced. Hétomesnil was not occupied, and there was no reason to suppose that it was so. The artillery was deployed to no purpose.

The advanced guard then moves by Ovillers on Gaudechart and Prévillers. By order of the brigadier, it again deploys its batteries on a level with Ovillers.

Criticism.—Neither Gaudechart nor Prévillers are occupied. This time the whole group is uselessly deployed.

While the column is passing through Gaudechart, the brigadier learns that Thieuloy is occupied by the enemy's infantry. This is a small portion of the troops of the Blue left flank guard.

The brigadier orders two companies to move on the village, and to place themselves in tactical connection with the 4th Division.

The commander of the two companies applies direct to the 3rd battery of the 2nd group to support his attack. For this purpose the battery comes into action 330 yards south-east of Gaudechart cemetery, whence it fires upon the edge of Thieuloy.

Criticism.—The brigadier, although he has a definite report of the situation, does not order the artillery to intervene.

I prefer to think that this was not due to forgetfulness. Rightly or wrongly, the brigadier probably considers that the attack upon Thieuloy ought not to be supported by artillery.

If this is so, what are we to think of the initiative of the commander of the 3rd battery?

The tactical connection between the minor tactical units ("*liaison par le bas*") is intended to secure the concerted action of the troops executing an operation, as prescribed by para. 36, Chapter V, of Regulations of 8/9/1910, and not to supplement the orders of the commander. The phrase "troops executing an operation" pre-supposes that there is an order to be executed. The commander of the two companies ought to have asked for this order, by requesting the support of artillery from the commander who was entitled to give such an order, and not from the commander of the 3rd battery, who was only a subordinate.

At 12.30 p.m. the General Officer Commanding the Division hands over to the 6th brigade the single battery to which the 3rd group is now reduced.

At 12.35 he hands over the 1st group to the 5th brigade, which is about to advance on the southern portion of Morvillers. At 1.45 this group comes into action north of Thérines, and fires upon the enemy's artillery. (See Diagram XIII.)

The 1st group of the corps artillery is not engaged. Thus the 3rd Division has only seven batteries in the firing line. Some of these batteries are successively put out of action by umpires' decisions which are decidedly open to question, but of which the discussion presents no interest. This explains the small number of batteries which appear upon Diagrams XIII and XIV.

The account of the operations of the 3rd Division is compressed, as it deals with the incidents at Thérines, which I do not propose to discuss.

4th Division.—The 4th Division, to which the commander of the Army Corps has given the 2nd group of the corps artillery, forms four columns each composed of one regiment and one group. Three columns march abreast in the 1st line, and the fourth in 2nd line.

The left column, under the orders of the brigadier of the 8th brigade, includes the 45th regiment and the 2nd group of the corps artillery. Its route is Briot, St. Maur, Thérines and St. Deniscourt.

At noon the brigadier of the 8th brigade observes troops issuing from Thérines near point 204. He believes that these are detachments of the enemy whom he is driving before him, and he gives the following order to the commander of the 2nd group, corps artillery :—

"Take your group to the edge of the plateau which commands Thérines to the north-east, and fire upon infantry reported at Le Ply and on the slopes towards point 204."

The commander of the 2nd group gives the following order :—

"Move to a position between La Creuse and Thérines. Task, to open fire upon enemy's infantry which are occupying Le Ply and which are seen retreating near Monsure wood."

Criticism.—At noon the left flank guard of the Blue Force, pursued by the 8th brigade, enter Thérines. But it had been forestalled by the 6th brigade. It is detachments of this brigade which the brigadier observed near Le Ply, issuing from Thérines and marching on Morvillers.

Thus from 12 noon to 12.35 the 2nd group of the corps artillery was firing upon its own troops. Yet the range was only 1,650 yards.

I hope that this misunderstanding may be of service in moderating the unreflecting enthusiasm of the partisans of the "*liaison à vue*."*

This incident is closed by a conference of the umpires. From this moment, the 4th Division takes no further part in the attack on Morvillers.

General Remarks.—During the day of the 16th the 2nd Army Corps had only about one-third of its artillery engaged in the firing line. This proportion was amply sufficient, the more so that less than half of the infantry was engaged. The force would have been better off if it had engaged even less of its artillery, since part of it was employed in firing upon its own troops.

In the Blue Force, double this proportion of artillery was engaged in the firing line. But the fifteen batteries deployed on Morvillers plateau were in positions offering little concealment, and their tasks were ill defined. They would have constituted an easy prey to the seven Red batteries, which were well posted and well in hand, had not some of these seven batteries been put out of action by umpires' decisions relating to insignificant points. The fact that the perch of one wagon body projects beyond the crest is not an event worthy of the attention of the umpires at manœuvres intended for the study of the tactical employment of artillery.

From this point of view, I do not hesitate to award the superiority of force to the Red side, although it had fewer batteries in line. But I do not consider that the manner in which it employed its artillery was irreproachable.

From the very beginning of the manœuvres, the majority of the commanders manifested a tendency to expend their artillery too quickly.

On the 15th the commander of the 2nd Army Corps had at the outset got rid of the 1st and 2nd groups of his corps artillery by handing them over to his divisional commanders. The 1st group was never used, and it would have been better for the side if the 2nd group had never come into action.

The 4th Division has four groups. At the outset, it attaches one group to each of its infantry regiments.

When artillery, served out in this fashion, is not required to open fire, it is artillery thrown away. It is very difficult to recover when it is required for a combined operation. This was well shown on the Blue side, when it was found impossible to collect any artillery to support the attack of the Colonial Brigade. The attempts made to support the attack of the 12th brigade proved fruitless. And yet the artillery which was proposed to attach to this attacking force was not actively engaged; it was merely in observation.

In the 3rd Division, the employment of artillery was much better understood. Certainly, on two occasions, we see the batteries deployed before the infantry has encountered the slightest resistance. This is another form of the tendency of the commanders to expend their artillery too quickly.

* That is, those who hold that troops on the same side only require to be in sight of each other in order to be able to act in concert.—Tr.

Artillery deployed without good reason is fatigued to no purpose. It is tempted to open fire on the first target which presents itself. It reveals its presence. It is replied to. And it is thenceforward entangled in the mechanism of the artillery duel, and is no longer available when it is wanted.

Para. 29, Chapter V, of the Regulations of 8/9/1910, lays down that:

"In order that the numerous demands which artillery has to satisfy may be complied with as they present themselves, far-sighted economy in the employment of batteries must prevail, so that the commander has always some batteries at his disposal."

17TH SEPTEMBER.

(Diagrams XVI, XVII and XVIII.)

SCHEME AND DISPOSITIONS OF THE RED FORCE.

On the 16th September, at 3 p.m., the commander of the Army of Paris sends the following order to the commander of the Red Force:—

"According to certain information, the main Blue Forces (imaginary) have abandoned the neighbourhood of Rouen and are all moving towards Gournay. The Paris Army Corps (imaginary) have reached the line Meru-Marines, where the head of the main body has now arrived. Continue your offensive movement in the direction of Gournay."

In compliance with the above, the commander of the 2nd Army Corps issues, at 9 p.m. on the 16th, an order, the substance of which is as follows:—

"The 2nd Army Corps will continue its offensive movement in the general direction of Gournay.

"The 1st Cavalry Division, with 1 battalion of the 4th Division, will cover the right of the Army Corps towards St. Arnoult.

"The 16th battalion of Chasseurs, the II/120, one battery of the 2nd group of the 3rd divisional artillery, and half a squadron, under the orders of the lieutenant-colonel of the 120th, will cover the left of the Army Corps, defending the line of the Thérain from Marseille-le-Petit to Achy.

"The 3rd Division will endeavour to gain a footing upon the Morvillers plateau, between Marseille and Thérines.

"The 4th Division, plus one group of the corps artillery, will attack on the front Epeaux-Thérines.

"The troops at the disposal of the commander of the Army Corps will be the I and III/120, and one group of the corps artillery, at the south exit from Thieuloy; the brigade of Chasseurs-Zouaves with two groups of the corps artillery will be at Feuquières by 8 a.m.

"The attack will commence at 7 a.m."

In compliance with the above order, the two divisions are ordered to move as follows:—

3rd Division.—The 6th brigade will move off at 7 a.m. by Thérines, Épaty and Lannoy; objective, north edge of Morvillers and point 204. It will prepare Le Ply for defence.

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The 5th brigade will move off at 7 a.m. by Roy-Boissy and Boissy; objective Mesnil Valeran and point 182 (south-east of Morvillers).

Divisional reserve: Infantry, two battalions of the 51st (6th brigade) in the wood north-east of Thérines. Artillery, 1st and 2nd groups of the 3rd divisional artillery, under the orders of the lieutenant-colonel, limbered up north-east of Thérines; 3rd group (reduced to two batteries)* at point 185. Task, to reconnoitre positions to support the attack of the brigades or to prevent the enemy from issuing from his lines.

The division will remain in its positions till 7 a.m., and will not take the offensive till then.

Criticism.—The General Officer Commanding the 3rd Division has taken care to organize the command of his artillery, but it did not occur to him to place it in tactical connection with the infantry.

But from dawn to 7 a.m. the division is to remain on the defensive. At that hour, if the enemy has not anticipated it, it is to take the offensive. The proper course would therefore have been to form two defensive tactical units, corresponding to the two sections of ground east and west of Mont Aubert, and for the division then to hold itself in readiness to assume the offensive at 7 a.m. By this hour it would have been possible to decide where and how to deliver the attack.

4th Division.—The division is to engage on the front Épeaux-Thérines. The General Officer Commanding the Division decides to conduct a methodical action with linked brigades, without engaging himself too deeply, in order to gain the necessary time for the general reserve to come up (brigade of Chasseurs-Zouaves).

The 8th brigade, with five battalions and the 2nd group of the corps artillery, has point 204 as its objective, and is to support the 3rd Division in its attack on Morvillers.

The 7th brigade, with five battalions and the 2nd group of the 4th divisional artillery, has as its objective point 194.

The reserve consists of one battalion of the 7th brigade and the 1st and 3rd groups of the 4th divisional artillery in the ravine west of Magneaux wood.

The whole of these troops are to be ready at 5 a.m., but are not to move off till 7 a.m., by order of the General Officer Commanding the Division.

SCHEME AND DISPOSITIONS OF THE BLUE FORCE.

On the 16th December, at 3 p.m., the commander of the force of disembarkation sends the following order to the commander of the 3rd Army Corps:—

"Confirmation has been received of the report that two Red Army Corps (imaginary) have crossed the Oise at and below Beaumont, marching towards the north-west.

"I am holding the line Gisors-Auneuil with advanced guards (imaginary).

* The 3rd battery is with the flank guard.

"Contain the Red Forces of Picardy on the plateaux of the left bank of the Thérain, and manœuvre so as to prevent their effecting a junction with the Army of Paris."

In compliance with this order the commander of the 3rd Army Corps issues, at 7 p.m. on the 16th, an order the substance of which is as follows:—

"The intention of the commander of the 3rd Army Corps is to contain the enemy with his left and to manœuvre with his right so as to prevent the enemy gaining a footing on the plateau between the Petit Thérain and the Thérain.

"The 5th Division (less a detachment composed of one group, two battalions of the 39th, and one battalion of the 74th,) will guard the zone to the north and west of Morvillers, between Le Mesnil Valeran (exclusive) and Lœuse (inclusive).

"A flank detachment composed of the 28th regiment, the 1st group of the divisional artillery and the 3rd cavalry brigade, under the orders of the brigadier of the 3rd cavalry brigade, will prevent the enemy from crossing the Petit Thérain below Marseille-le-Petit and from obtaining access to the plateau in the neighbourhood of Crillon, Villiers-sur-Bonnières and Polhay, in order to ensure the safety of our right flank."

The following troops are to be at the disposal of the commander of the Army Corps:—

- (1) The Colonial Brigade, near point 181, $1\frac{1}{2}$ miles north-west of Songeons.
- (2) The 6th Division (less the 28th and 1st group, divisional artillery) assembled west of Frétoy, Choqueuse and Le Mesnil Valeran.
- (3) The 4th group of the corps artillery next to the Colonial Brigade. The 1st and 2nd groups of the corps artillery, 550 yards south-east of Morvillers (point 182).

The 3rd Cavalry Division is to move by St. Arnoult on Feuquières in order to attack the rear of the 2nd Army Corps.

The substance of the orders given by the divisional commander is as follows:—

5th Division.—The 5th Division will occupy the following positions by 5 a.m.:—

Right section, Mesnil Valeran (exclusive) to point 204 (inclusive), 129th regiment and the army corps engineer company, under the command of the colonel of the 129th.

Left section, point 204 (exclusive) to Boutavent (inclusive), 36th regiment and divisional engineer company, under the command of the brigadier of the 10th brigade. This officer is also entrusted with the task of ensuring the safety of the left flank of the division.

The divisional artillery to be at point 204, in action.

Divisional reserve, two battalions of the 74th and one of the 39th, at Beaulieu.

* This detachment was put out of action on the 16th. On the 17th it is at the disposal of the Director of Manœuvres.

Criticism.—The artillery is brought into action prematurely. It cannot place itself in tactical connection with any body of troops, since it is under the direct command of the General Officer Commanding the Division.

6th Division.—The 6th Division is to be assembled by 6 a.m. in the zone Gréméville-Frétoy-Balleux, under the protection of the following forces :—

- (a) The outposts of the 24th regiment.
- (b) The divisional squadron, watching the Petit Thérain between Lannoy and Marseille-le-Petit.
- (c) A covering detachment of two companies, one section of artillery and one troop of cavalry, near la Rue du Bois, watching Marseille-le-Petit.

ENGAGEMENT OF THE TWO FORCES.

Two battles were fought on the 17th :

One in the neighbourhood of Mesnil Valeran, between the 6th Division of the Blue Force and the 5th brigade of the Red Force.

The other in the neighbourhood of Morvillers, St. Deniscourt and Loueuse, between the 5th Blue division and the 6th Red brigade.

I will briefly review the engagement of the flank detachments, which are of secondary interest from the artillery point of view. I will deal at greater length with the engagements of Mesnil Valeran and Morvillers, especially the latter.

Flank Detachments. Red Force.—At 6.50 a.m. the flank detachment of the Red Force holds Marseille and Polhay with the II/120; the 16th battalion of Chasseurs is at Achy, and the battery is assembling at Polhay. Up to 9.50 nothing of importance occurs; at this hour, the detachment takes the offensive towards Villiers-sur-Bonnières (16th Chasseurs) and towards Payen wood (II/120), leaving only one company at Polhay.

At 10.50, thanks to the support of the battery, it presses the enemy back upon Cagny wood and Frétoy, and occupies Payen wood and point 156. The lieutenant-colonel commanding the detachment is disposed to attack Frétoy, but he is stopped by the umpires from 11.25 to 12.30.

The Director of Manœuvres decides that the detachment is to re-cross to the east bank of the Thérain.

Criticism.—This detachment loses sight of its mission. It attacks first Villiers-sur-Bonnières, then Payen wood, and marches on Frétoy, leaving a gap of 3 miles, in the neighbourhood of Mesnil Valeran, between itself and the 5th brigade, of which it should have covered the left flank.

Blue Force.—The main body of the 3rd cavalry brigade moves first on Payen wood, and afterwards on Milly, Moimont, where two squadrons take up a position at 8.30.

The 28th regiment is broken up; one battalion marches on Polhay, another on Payen wood and Bolley, while a third follows in reserve, marching on Villiers-sur-Bonnières.

One battery is sent to Crillon, at the disposal of the 3rd cavalry

brigade. The two other batteries are ordered to move to the south of Villiers-sur-Bonnières, and to reconnoitre positions from which they can fire on the slopes on either side of the Thérain.

These batteries march without escort, and when they arrive within 2,000 yards of Villers they are fired upon by the Chasseurs of the Red Force. They retire and halt at point 156.

At 7.30, by order of the brigadier commanding the detachment, one of these batteries is sent to a point 1,350 yards north-west of point 156, to support the attack of the battalion of the 28th marching on Polhay.

But at about 10 a.m. the whole of the 28th regiment retires before the Red Forces issuing from Polhay and Villers.

The commander of the 1st group, divisional artillery, then receives an order to place one battery in observation at the north-west corner of Cagny wood to cover the retreat of the 28th.

At about 11 a.m. the batteries are ordered to retire on Balleux.

Criticism.—The flank detachment of the Blue Force, although much stronger than that opposed to it, failed in every operation which it undertook. It could not take Polhay, and had to abandon Villiers-sur-Bonnières. It did not even furnish any information to its side as to the situation on this flank. It failed to discover the gap, several miles in extent, between the 3rd Division and the flank detachment of the Red Force.

There was no tactical connection in the action of the different units of the force. The brigadier employed his cavalry, his infantry, and his artillery, each separately. He broke up his units without necessity. He lost sight of the fact that since his task was to prevent the enemy from crossing the Thérain below Marseille-le-Petit and gaining a footing on the plateau, his proper course was to concentrate his forces, reconnoitre the enemy, and afterwards, if necessary, dispose his forces so as to drive him back into the Thérain. He should not have sent his cavalry and one battery, without any object, towards Crillon and Moimont, while scattering his infantry in the directions of Belloy, Villers and Polhay, and while his artillery was exposing itself to rifle fire at Villers.

COMBATS AROUND MESNIL VALERAN (Diagram XVI).

Blue Force.

Since 5.45 a.m., according to reports received at daybreak the commander of the 3rd Army Corps believes that a Red attack on a large scale against Gréméville plateau is being prepared. He therefore gives the following order to the General Officer Commanding the 6th Division :—

“ Dispose the 6th Division with a view to :

- “ (1) Defence of the ground between Frétoy and Mesnil Valeran (inclusive).
- “ (2) So that reserves can be readily moved in the general direction of Mont Aubert.
- “ (3) To provide for the necessity of withdrawing the Blue flank detachment.”

The execution of this order does not commence till about 7 a.m.

The General Officer Commanding the 6th Division then orders the brigadier of the 11th brigade to occupy Mesnil Valeran, Choqueuse, Frétoy, facing the Petit Thérain. The 12th brigade remains at its place of assembly.

The colonel commanding the 6th divisional artillery orders his lieutenant-colonel to place one battery north of Choqueuse, to check the advance of the enemy by Marseille-le-Petit. This battery is to pass under the command of the brigadier of the 11th brigade.

Criticism.—In the order given to the brigadier of the 11th brigade, there is no mention of artillery. This brigadier is therefore for the moment unaware that a battery has been placed at his disposal. A single order addressed both to the infantry and the artillery unit would have prevented this misunderstanding.

Again, it is the colonel commanding the divisional artillery who selects the position of the battery, and even allots its target. And the target which he assigns to it is the enemy advancing by Marseille-le-Petit, whereas the attack which threatens the 11th brigade starts from Roy Boissy and Lannoy and is directed on Le Mesnil Valeran.

During this time the flank detachment is retiring from the Rue du Bois towards Choqueuse, before the flank detachment of the Northern (Red) Force, which is marching on Polhay.

The 24th regiment occupies Mesnil Valeran with its 1st battalion, Choqueuse with two companies of the 2nd battalion, and Frétoy with the 3rd battalion. The colonel is with the reserve (one troop and two sections of machine guns) at Choqueuse cemetery.

Criticism.—The flank detachment, which was retiring on Choqueuse, and whose task was to delay the enemy issuing from Marseille-le-Petit, should logically have been placed under the orders of the brigadier of the 11th brigade.

At 7.10 a.m. the battery of the 2nd group, 6th divisional artillery, which had been handed over to the brigadier of the 11th brigade, comes into action at the intersection of the cart roads north-east of Choqueuse. One section, in the open, watches the crests at Roy-Boissy and Lannoy, while the other, in the semi-concealed position, watches the west slope of the Marseille-le-Petit ridge.

Criticism.—The battery has not adhered to the task which had been assigned to it by the commander of the divisional artillery, because the infantry commander at Choqueuse has informed the battery commander that the Red attack seemed to be starting from Roy-Boissy. Tactical connection between subordinate commanders (*liaison par le bas*) has thus repaired the error in the allotment of the target committed by the commander of the divisional artillery.

Red Force.

At this moment the Reds take the offensive. The 5th brigade, reduced to the 128th regiment, advances to the attack of Mesnil Valeran with one battalion in the 1st line and the two others in echelon in rear and to the left. The 3rd group, 3rd divisional artillery, receives

orders from the brigadier to support this attack. This is the group which was handed over to the brigadier at 6 a.m. It has been in observation facing Mesnil Valeran since 6.30 a.m., but, at the moment when the attack is launched, no tactical connection between this group and the colonel of the 128th, who is in the front line, has yet been established.

Mesnil Valeran was defended by one Blue battalion; the 128th regiment, having only one battalion engaged, and being badly supported by artillery, is stopped by the umpires at 7.30 a.m.

Criticism.—This incident gave rise to an interesting question for the umpires. (See "Umpiring at the Picardy Manœuvres, 1910," Paris, Lavauzelle, 1911. See also Appendix IV.)

The umpire having visited in turn the attacking troops and the artillery ordered to support them, found that although both were entrusted with the same task, the two arms were ignorant of each other's presence. So much so, that the colonel of the 128th asked for artillery to support him. This shows the amount of progress made in the minds of commanders by the idea of tactical connection.

The umpire consequently decided that the attack was to stop for half an hour. It would have been more instructive for all concerned if it had been stopped until the tactical connection had been established.

It should have been pointed out to the brigadier that he ought to have issued a single order addressed to the two arms, or else he should have called up the two commanders to him, and have given them the necessary instructions.

Blue Force.

The colonel commanding the 6th divisional artillery, seeing that the enemy has guns at point 185, orders his lieutenant-colonel, at 7.30, to cause the commander of the 2nd group to reconnoitre a position south of Mesnil Valeran plateau, in order to engage these guns. The 2nd and 3rd groups are posted in a position of readiness at Grémévilliers. The 1st group is with the flank detachment.

About 8 a.m. the General Officer Commanding the Division, uneasy about the attack on Mesnil Valeran, orders the brigadier of the 11th brigade to "hold out at any cost on the front Mesnil Valeran-Choqueuse-Frétoy. The 12th brigade will reinforce this defence."

On his part, the colonel commanding the divisional artillery, no doubt with the sanction of the General Officer Commanding the Division, orders his lieutenant-colonel to post the two batteries of the 2nd group at Choqueuse (the 3rd had been handed over to the 11th brigade), and to cause the position reconnoitred at Mesnil Valeran to be occupied by the 1st group. As he says, "The intention of the General Officer Commanding the Division is to oppose a vigorous resistance on the front Mesnil Valeran-Choqueuse-Frétoy."

The lieutenant-colonel of the divisional artillery passes this order on to the commander of the 2nd group, ordering him to "Support the defence of Choqueuse," and he goes on, with the commander of the 1st group, to reconnoitre the Mesnil Valeran position. There he arranges to act in tactical connection with the commander of the battalion defending this point. At 8.15 the 2nd and 3rd batteries of

the 1st group are in position 550 yards south-east of Mesnil Valeran, and are co-operating in the defence; the 3rd is acting as an infantry battery and the 2nd as a counter-battery. The 1st battery comes into position west of the village, its task being to act as an infantry battery against the slopes north of Roy-Boissy and Mont Aubert." (See Diagram XVI.)

At about the same time the 2nd group comes into action east of Choqueuse, astride of the Mare-aux-Sangsues. Its two batteries are in observation of a total zone of 1,000 thousandths south of No. 30 National road.

Criticism.—The General Officer Commanding the Division gives his infantry an order in which the artillery is not mentioned, while the commander of the divisional artillery gives the artillery an order in which the infantry is not mentioned.

Also, the task assigned by the commander of the divisional artillery to the two groups is extremely vague.

The proper course would have been to place this artillery under the orders of the commander responsible for the defence of the front Mesnil Valeran-Choqueuse-Frétoy, that is, the brigadier of the 11th brigade. Most fortunately, the direct tactical connection established by the 1st group with the Mesnil Valeran battalion repairs, to some extent, the omission of the higher commanders.

As for the 2nd group, it is not placed in tactical connection with any infantry. Its zone of observation does not correspond with any of the requirements of the defence. And, as it turns out, the 2nd group continues, till the end of the day's manoeuvres, to watch an area where the enemy has never shown a single man.

At 8.35 a.m. the brigadier of the 11th brigade forwards the following despatch to the General Officer Commanding the Division :—

"Please send a battalion of the 12th brigade to Grémévilliers, in order to support the defence of either Mesnil-Valeran or Choqueuse. This battalion will be under the orders of the colonel commanding the 24th regiment.

"The 24th regiment has one battalion at Mesnil-Valeran, one at Choqueuse and one at Frétoy. One battery of artillery is between Mesnil Valeran and Choqueuse."

(See Diagram XVI.)

Criticism.—This despatch clearly shows that the brigadier of the 11th brigade is absolutely ignorant of the presence, in his section, of the 1st and 2nd groups of the 6th divisional artillery. This is hardly his fault, since not one of the orders which he has received made any mention of artillery. Under such circumstances, the joint action of the two arms cannot be realized, except by accident, or by a lucky piece of initiative on the part of the subordinate commanders.

The battalion asked for is furnished by the 119th regiment, but it does not arrive at Grémévilliers till 9.20. Since 8.45 the batteries of the 1st group have been firing on the enemy attacking Mesnil Valeran ;

but at 9 a.m. the 2nd and 3rd batteries exchange tasks, because the 2nd battery has a better view of the infantry targets than the 3rd. From this time forward the artillery co-operates very efficaciously in the defence of the position.

Criticism.—This exchange of tasks would have been obviated if the position had been reconnoitred in collaboration with the infantry commander.

Moreover, it was the commander of the 2nd group whom the commander of the divisional artillery had, at 7.20, designated to carry out the reconnaissance, and it is the 1st group which he details to occupy the position.

Once again, the subordinates charged with the execution of the orders repair the errors of their commanders.

Red Force.

The Red Force renews the attack, engaging a second battalion of the 128th and supporting the attack with the 2nd group, of which one battery has come into position south of Roy-Boissy. In this position the battery is better able to carry out its task than at point 185. (*See Diagram XVI.*)

However, the umpires stop the 128th before the east edge of Mesnil Valeran from 8.40 to 9.10, considering that the artillery support is not efficacious, since tactical connection between the two arms has not yet been established.

About 9.15 the attack is renewed, but the umpires decide that in view of the strength of the defence it can make no progress.

The brigadier of the 5th brigade twice asks for reinforcements, but the General Officer Commanding the Division refuses them.

From 10.20 onwards the Red offensive ceases completely on this flank. The whole of the 128th regiment is engaged, and it entrenches itself before Mesnil Valeran on the ground which it has gained. It remains there till the end of the day's manoeuvres.

Blue Force.

The Blue troops at Choqueuse have never been attacked or threatened. However, in order not to remain idle, the 1st battery of the 2nd group successively fires, according to its record of firing, upon the following targets:—

At 7.15 and at 8.40, on infantry coming down the slopes east and south of Roy-Boissy.

At 9 a.m., on artillery north-east of Roy-Boissy.

Shortly afterwards the commander of the 2nd group, who is with his two batteries at Mare-aux-Sangsues, decides that the 1st battery is insufficient to deal with all the targets which are visible to it. At 10.30 he hands over to it the section of artillery which was previously attached to the flank detachment, and which happens to be close at hand. He considers that this detachment is sufficiently supported by the 3rd battery, which is to the east of the Mare-aux-Sangsues.

At the same time, he shifts the 2nd battery, which was to the west of the Mare-aux-Sangsues, to a position 330 yards south of Choqueuse,

directing it to watch the crests between the directions of Beaupré and Polhay.

Since 10 a.m. the brigadier of the 11th brigade had realized that Mesnil-Valeran alone was attacked by relatively small forces, and he had proposed to the General Officer Commanding the Division to take the offensive towards Marseille and Roy-Boissy. But at 10.30 the battalion of the 119th, which had been placed at his disposal, is taken from him, and the whole 12th brigade is reconstituted as an Army Corps reserve near point 120, west of Séronville.

Shortly afterwards, at 10.50, the brigadier of the 11th brigade himself receives an order to form up the half of the 24th regiment north of Grémévilliers, with a view to an attack upon Marseille or upon Roy-Boissy.

Consequently the 2nd and 3rd battalions leave only one company at Frétoy and one at Choqueuse, and are formed up under the orders of the colonel commanding the 4th regiment near Grémévilliers.

This was the situation on this flank when the manoeuvres ceased for the day.

Criticism.—From the above account it appears that on this part of the battlefield, in the Blue Force, tactical connection between the higher commanders (*liaison par le haut*) broke down completely.

Tactical connection between subordinate commanders (*liaison par le bas*) repaired this omission at Mesnil Valeran. The umpires took note of this point, and adjudged this village to the Blue Force.

At Choqueuse, on the contrary, there was neither tactical connection between the higher commanders nor between their subordinates. The 1st battery of the 2nd group had been placed there by the General Officer Commanding the Division in order to stop the advance of the enemy from Marseille-le-Petit. It fired upon infantry and artillery visible near Roy-Boissy, in quite a different direction. It might have asked for instructions from the brigadier or from the battalion commander, but it did not think of doing so. It is a question which arm is the more to blame, the infantry who do not use the artillery placed at their disposal, or the artillery who regard their isolation with equanimity.

The group commander is also much to blame. Not only did he fail to establish tactical connection with the infantry commander at Choqueuse, but he laid hands upon the artillery of a detachment organized by the General Officer Commanding the Division.

As for the 2nd battery, the group commander shifted it because, as he said, "our troops appear to be retreating in the direction of Polhay and Choqueuse." Now, the troops which he had perceived did not belong to his own force; they belonged to the flank detachment, which was accompanied by artillery, and whose task did not concern the artillery of the 6th Division.

Finally, the 2nd group served no useful purpose. This might have been foreseen, since the flank detachment was between it and the enemy. Since the commander of the divisional artillery had not foreseen this, he should have re-distributed the zone of observation of the counter-batteries between the two groups. The commander of the 1st battery would not then have been tempted to fire in the direction of Roy-Boissy, which only served to draw the enemy's fire upon his battery.

COMBATS IN THE NEIGHBOURHOOD OF MORVILLERS, ST. DENISCOURT AND LOUEUSE (Diagram XVII).

Blue Force.

At 6 a.m. the 5th Division occupies the positions as directed in the orders of the preceding evening, except as regards the divisional artillery. As a matter of fact, at 5 a.m. the General Officer Commanding the Division had altered his intentions. He had ordered the 2nd group to be sent to a position near point 194, in order to watch the ground from St. Deniscourt (exclusive) to point 185, especially Omécourt ravine.

Consequently at 6 a.m. the situation was as follows :—

The 129th regiment has one battalion between Morvillers and Mesnil-Valeran, one battalion near point 204, and one in reserve south-west of Morvillers.

The 39th regiment has one battalion at point 194 and Loueuse, one at Boutavent, and one in reserve south-west of Loueuse.

The remaining regiment is in divisional reserve at Beaulieu.

The 1st and 2nd groups of the divisional artillery are at point 204.

The 1st group has two infantry batteries between St. Deniscourt steeple and Monsure wood, and one counter-battery observing the zone to the right of Thérines steeple.

The 2nd group has three counter-batteries observing the zone between Thérines and St. Deniscourt.

The 3rd group is 1 mile south of Loueuse, south of point 194. It is in observation of the zone between St. Deniscourt steeple and point 184. Its two batteries are ready to act either as counter-batteries or as infantry batteries. It is specially watching the Omécourt ravine.

These three groups are under the command of the lieutenant-colonel of the divisional artillery, and the General Officer Commanding the Division reminds them that they are at his disposal.

Criticism.—On the evening of the 16th, five groups were in action at point 204, namely, three of the 5th divisional artillery and two of the corps artillery. The manœuvres being supposed to be continuous, these groups ought to have been, at 6 a.m. on the 17th, in the same positions and with the same targets as on the previous evening. We should then have seen how the artillery commander would have dealt with his fresh tasks, which batteries he would have withdrawn, and how he would have set about it ; for the whole of the artillery of the Blue Force had been expended.

The Directing Staff, when they ordered the 1st and 2nd groups of the corps artillery to assemble 550 yards south-east of Morvillers on the morning of the 17th, and the 3rd group of the 5th divisional artillery to be at point 194, relieved the commanders of the necessity for taking steps to proceed from the old allotment of tasks to the new one, and for re-organizing the command. The staff eluded the problem of withdrawing artillery.

Moreover, the lieutenant-colonel of the 5th divisional artillery had unduly simplified his task. He merely divided the horizon into zones of observation for his batteries. This was all very well for the counter-batteries. But for the infantry batteries, and for the batteries intended

to act in either capacity, he should have taken into consideration the requirements of the infantry, and have established tactical connection with the colonels of the 39th and 124th regiments. He should even have handed over batteries, sections, or single guns to the commanders of sections of the defence, for the purposes of close defence.

Red Force.

The 6th brigade is not to commence its attack on Morvillers and point 204 till 7 a.m. The 1st and 2nd groups of the 3rd divisional artillery, placed under the command of the lieutenant-colonel, are assembled at 5.30 behind the wood north-east of Thérines.

The lieutenant-colonel brings his two groups into action at 5.45, and already thinks of sending one of them to the south bank of the Petit Thérain.

Shortly afterwards, although there has been no change in the situation, he orders the 2nd group to move to a position north of the Ply, within $\frac{1}{2}$ mile of Monsure wood, which the enemy's infantry are still holding. However, it is not till 7 a.m., when the offensive movement of the 6th brigade commences, that the group commander orders these instructions to be carried out.

At 6.15 the second group is placed at the disposal of the brigadier of the 6th brigade. The lieutenant-colonel of the divisional artillery is the artillery commander of this brigade.

At 7 a.m. the 72nd regiment advances by Le Ply and Épaty to attack the enemy's outposts in Monsure wood. The second group is in action west of Le Ply, and fires on the edge of this wood, which is very lightly held, and into which the 72nd regiment has no difficulty in penetrating.

About 7.30 a.m. the brigadier receives instructions from the General Officer Commanding the Division directing him to wait, before embarking on a vigorous offensive, until the action of the 4th Division has made itself felt. The brigadier therefore causes Monsure wood to be occupied and prepared for defence by two battalions of the 72nd, while one battalion of the 51st advances by the north-west angle of the wood. He keeps as brigade reserve one battalion of the 72nd (formerly the outpost battalion) and one battalion of the 51st, which the General Officer Commanding the Division has just restored to him.

During this time the 2nd group has changed position, and has come into action somewhat further to the west, 550 yards north-west of Monsure wood, in order to get a better view of its target.

At 7.45 the 1st group is handed over to the brigadier. It comes into action beside the 2nd group. The lieutenant-colonel commands both groups.

It will be noted that the General Officer Commanding the Division, at the same moment when he directs the brigadier to wait for the 4th Division before launching a vigorous attack, hands over one group of artillery and one battalion to him, keeping only one infantry battalion at his own disposal.

The deployment of the whole of the 2nd group of the divisional artillery, although delayed till 7 a.m., was dangerous in view of the proximity of the enemy's infantry. It was useless, since the 72nd regiment encountered no resistance.

The change of position of the 2nd group would have been avoided if the lieutenant-colonel had not brought this group into position so hastily and so uselessly, at 7 a.m., to the north of Le Ply.

At 8 a.m. the lieutenant-colonel directs the two groups to fire on Morvillers, one taking the right of the steeple and the other the left, and both watching point 204.

At 9 a.m. the 2nd group has two infantry batteries on Morvillers (north-west and north-east edges) and one battery in observation on point 204.

The 1st group has three infantry batteries on Morvillers, each with a target front of 110 yards. (Diagram XVII.)

It is in this formation that the 6th brigade is to await, till 10.30 a.m., the intervention of the 4th Division.

Criticism.—Thus at 9 a.m., when only one battalion of the brigade is attacking Morvillers, the two others being on the defensive in Monsure wood, the artillery has five batteries firing on the edge of the village. The lieutenant-colonel of the 3rd divisional artillery, who was the artillery commander under the brigadier of the 6th brigade, should not have allowed this wasteful expenditure of batteries. It was his duty to determine the number of batteries to be engaged, according to the importance of the task.

The 4th Division is ready to march at 5 a.m. According to the orders of the previous evening, it is to conduct a methodical action without engaging itself too deeply. The 7th brigade is on the right with the 2nd group, divisional artillery; objective, point 194; the 8th brigade is on the left with the 2nd group, corps artillery; objective, point 204. The 1st and 3rd groups of the divisional artillery are in reserve near Magneux wood.

At 5.30 a.m. the General Officer Commanding the Division arrives at Magneux wood with the colonel commanding the divisional artillery. The latter reconnoitres the ground towards points 185 and 163, and, as the result of this reconnaissance, gives the following orders to the groups in reserve :—

To the 1st group : To move to the north of Omécourt château and be ready to support the attack of the 8th brigade on St. Deniscourt.*

To the 3rd group : To be ready to come into action as an infantry battery if required. ••

At 6.45 the General Officer Commanding orders the 4th Division to advance, and directs the reserve groups "to take up positions on the ridge north of Petit Thérain, to support the advance of the 7th and 8th brigades on points 194 and 181. These two groups are to

* *Note.*—The Blue Force had only a few patrols at St. Deniscourt.

remain under the command of the commander of the divisional artillery."

At about 7 a.m. the 7th brigade is engaged against Loueuse and point 194, with two battalions of the 54th in the 1st line and the third in support; the two battalions of the 67th are in reserve to the right rear. The 2nd group is in position south of Bocqueaux wood, supporting this attack.

On this flank the action develops very slowly, the umpires having successively placed two companies of the 54th out of action, and stopped a battalion of the 67th sent up to reinforce the attack.

On the other flank, the 8th brigade attacks, the 54th regiment having two battalions directed on St. Deniscourt and point 181; its artillery, the 2nd group of the corps artillery, is in position 550 yards north-west of point 149, north of Thérines, supporting this attack and engaging the Blue artillery at point 204.

At the same time, the 1st group comes into action between Omécourt and point 163, and opens fire on "trenches near point 194." As for the 3rd group, it is unable to find a position where it can come into action as a counter-battery. For the view from the crest between Omécourt and point 163 is limited by the crest 181-194. This group remains limbered up north-west of Omécourt.

The 45th regiment has no difficulty in securing point 181, which is only held by outposts. One of the batteries of the 2nd group, corps artillery, comes up to crown the position. At this moment the 8th brigade is ordered to suspend its attack on point 204 until the 7th brigade has taken Loueuse and point 194. (See Diagram XVII.)

Criticism.—Thus, on the evening of the 16th the General Officer Commanding the Division "does not wish to engage himself too deeply," and on the 17th, at 6.45 a.m., he deploys his last two remaining groups, although no change in the situation has taken place.

It is easy to understand how this change of plan came about. The commander of the 4th divisional artillery, on his own account, could not resist the temptation of riding along the crest between points 185 and 163, at 5.30 a.m., to look for positions, although his General Officer Commanding had not asked him to do so. Having found these positions, he wished to use them, and he gave orders on his own account to that effect before the arrival of the General Officer Commanding. The divisional order of 6.45 is only the confirmation of the dispositions already made by the artillery commander.

These dispositions are altogether unsound. Not only are two groups expended on an attack which, at a pinch, could have been carried out without artillery support (for St. Deniscourt was only held by patrols and point 181 by outposts), but these two groups were under the orders of two different commanders. The 3rd group was under the orders of the brigadier, the 1st group under the direct orders of the General Officer Commanding the Division. "Again, to support the attack of the 45th regiment, the 1st group fires on trenches near point 194, a mile and a half from the objective of the attack. It fires on anything it pleases, on whatever it sees. And it could hardly do otherwise, since it was not in tactical connection with the commander of the attack. The commander of the divisional artillery

could not have pointed out its targets to it, unless he himself had placed himself under the orders of the colonel of the 45th, or of the brigadier, which was far from being his intention. On the contrary, his idea was to create an independent command for himself.

What I wish to censure, in laying such stress upon this incident, is less the waste of artillery by the commander, than the tendency of certain artillery officers to conduct the combat on their own account, independently of the infantry. We have seen the result of this tendency at Mesnil Valeran; of two groups thus posted by the commander of the 6th divisional artillery, one was useless, and the other would have been so had it not been for the initiative of the group commander, who placed himself in tactical connection with a battalion commander. In the present case the result is that the group acting as counter-batteries is unable to fire upon the enemy's artillery. As for the group of infantry batteries, it is firing, not upon the objective of the attack, but upon a target which the infantry is not attacking.

Blue Force.

5th Division.—The General Officer Commanding the 5th Division, seeing Loueuse seriously threatened, decides to place the 3rd group at the disposal of the brigadier of the 10th brigade, who is entrusted with the defence on this flank.

At 7.45 the lieutenant-colonel of the divisional artillery transmits this order to the commander of the 3rd group, and he orders the commander of the 1st group to be ready to extend his zone of observation towards Omécourt, since he foresees that the 3rd group will now be called upon to change its dispositions.

Criticism.—The lieutenant-colonel of the divisional artillery did very well to provide beforehand for the extension of the zone of the 1st group.

About 8.30 a.m. the commander of the 3rd group, having been informed that he is to pass under the orders of the brigadier of the 10th brigade, sends an officer to establish tactical connection with him (*agent de liaison*). He orders one of his batteries to remain in position to co-operate in the defence of Loueuse (eastern portion) and the ridge at point 194, while the other two batteries are to take up a position of readiness in the ravine 550 yards west of point 188. The original position of these two batteries was now enfiladed by the enemy advancing between Omécourt and Loueuse.

Up to 8.45 the officer sent by the 3rd group has not yet joined the brigadier of the 10th brigade. At that hour the brigadier sends the following order to the commander of the 3rd group:—

“One and a-half battalions of the 36th are engaged between the exit from Loueuse and Boutavent. Place one battery in position west of Loueuse, near the château, to support this infantry and to watch the Forval ridge. You will place yourself in tactical connection with the colonel commanding the 36th, who is on the position mentioned above.”

Unfortunately, though he sends out a second officer, the commander of the 3rd group is unable to establish tactical connection

with the brigadier till 9.30 a.m. Also, the brigadier's order does not reach him in time to be of use. Therefore he does the best he can, which is to establish tactical connection with a battalion commander of the 36th. But it is then 9.10 a.m., and too late to co-operate effectively in the defence of Loueuse. For since 9 a.m. the enemy has been attacking the north edge of the village. The commander of the 3rd group, considering the situation dangerous, sends his 2nd battery to point 188 with orders to support the defence in the section St. Deniscourt-Loueuse, while his 1st and 3rd batteries assemble in the ravine $1\frac{1}{2}$ miles south of Loueuse, retiring by Beaulieu farm.

Criticism.—The commander of the 3rd group is to be praised for his efforts to establish relations with the commander of the new tactical unit to which he is assigned, namely, the brigadier of the 10th brigade. The order sent by the latter is excellent. But unfortunately all this good work proved fruitless. The heat of the combat was not the moment for the General Officer Commanding to hand over artillery to the brigadier. Once the troops are engaged, it is not easy to establish tactical connections.

If the artillery had been handed over to the brigadier at the moment when the latter was entrusted with the task of defending the left section, tactical connection would have been established during the joint reconnaissance made by the commander of the section and the artillery commander. The commander of the section would not have failed to order a battery, a section of guns, or even a single gun, to be posted to guard the small ravine at Omécourt, and also the two ravines leading from Colagnies and Epaux to Loueuse and Ernemont. These are the natural approaches for an attack on Loueuse, and it was by these ravines that the Red Force penetrated the defence.

From the tactical point of view, the commander of the 3rd group is to be praised for having remembered, at the outset, to keep a reserve in hand by posting two of his batteries in a position of readiness in the ravine west of point 188. He thus ensured the power of complying with the requirements of the commander of his tactical unit.

In the neighbourhood of Morvillers, the Red Force, having carried point 181 and Monsure wood, are endeavouring to press forward towards point 204. The 1st and 2nd groups of the 5th divisional artillery fire upon the troops which they observe in their zone of observation. At 9 a.m. the offensive movement of the Reds ceases in this portion of the battlefield.

Criticism.—It would have contributed to the strength of the defence if the General Officer Commanding the Division had allotted a small force of artillery to the colonel of the 129th. • The ground between Morvillers and Mesnil Valeran was a dead angle so far as the 1st and 2nd groups were concerned.

THE RESERVES JOIN IN THE COMBAT.

While these events were taking place, the commander of the Blue Force, anxious about what might be taking place at Mesnil Valeran,

the point of junction of the 5th and 6th Divisions, had taken steps to engage part of his corps artillery at this point. This artillery had assembled at 6 a.m. as follows: The 4th group with the Colonial Brigade near point 181, and the 1st and 3rd groups south of point 182, south-east of Morvillers.

At 8.30 a.m. the commander of the 1st group is ordered to be ready to occupy, with two batteries, positions reconnoitred by the colonel commanding the corps artillery north-west of point 182, "in order to co-operate in the defence of Morvillers and to command the exits from Mesnil-Valeran and the neighbouring woods."

One of these batteries is posted 550 yards south of Morvillers.

Criticism.—The 1st group is ordered to be ready to co-operate in the defence of Morvillers, yet no tactical connection is established between it and the defenders of this supporting-point. It would have been simpler to hand over a portion of the 5th divisional artillery to the commander of the Morvillers section at the outset.

At the same period the 4th group again passes under the command of the colonel commanding the corps artillery, and is ordered to take up a position of readiness at Séronville. At 8.45, almost immediately afterwards, a fresh order places this group at the disposal of the colonial battalion which has been left at point 189, north-west of Songeons, to flank the position of the 5th Division in the neighbourhood of Morvillers.

Criticism.—The 4th group is shifted backwards and forwards between Séronville and point 189. It is sent from one commander to another without apparent motive.

Moreover, what is the object of the task assigned to it? The tactical unit at point 189 can only serve to cover the retreat of the 5th Division. How can it possibly flank the position of the division, since it is not in echelon with respect to the division?

In any case the natural course would have been to place this unit under the orders of the General Officer Commanding the 5th Division.

The colonel commanding the corps artillery, in compliance with the above order, gives the following order to his lieutenant-colonel:—

"Take command of the artillery with the troops holding the high ground between points 181 and 189 north-west of Songeons. These troops are ordered to hold on to this ground. Endeavour to support, with your artillery, any counter-attacks which may be made on the Morvillers-Loueuse plateau and to stop the advance of the enemy on your left.

"You will have with you at least one battalion of the colonial infantry."

Criticism.—The lieutenant-colonel of the corps artillery does not know who is in command of this tactical unit. Moreover, he is at the disposal of the commander of this unit, and at the same time he

is ordered to execute other tasks. Finally, he is not informed whether the battalion of colonial infantry is part of this unit or whether it is a reinforcement.

RETREAT OF THE 10TH BRIGADE ON BEAULIEU.

About 9 a.m. the commander of the Blue Force sends orders to the General Officer Commanding the 5th Division "to consider Loueuse and Ernemont only as an advanced post of the Morvillers-Beaulieu position, which is to be held at any cost." At the same time he suggests that a group of corps artillery placed near point 189 will facilitate the retirement of the division.

Criticism.—The order received by the 4th group of the corps artillery does not appear to be in conformity with the above task. It would have been so, if the tactical unit at point 189 had been placed under the orders of the General Officer Commanding the 5th Division.

The brigadier of the 10th brigade, being informed of this decision of the Army Corps commander, retires at about 9.40 a.m. on the principal line of resistance, namely, point 204 (exclusive), ridge 188, and Beaulieu, under the protection of one battalion of the divisional reserve and of two batteries of the 3rd group, divisional artillery, which receives the following order:—

"Take up a position on the ridge 1 mile south of Loueuse so as to command the exits from this village. The 36th regiment will retire with two battalions on ridge 188 and one battalion on Riffin. The battery of the 3rd group, divisional artillery, at point 188, will remain in position and will co-operate in the protection of this retirement. The remainder of the group will also co-operate as soon as their task south of Loueuse is accomplished."

The commander of the 3rd group, divisional artillery, places two batteries in position north of Longavesne, 1 mile south of Loueuse. These batteries fire upon hostile infantry advancing east and west of the village. The 3rd battery remains at point 188.

At 10.30 a.m. the 36th regiment having succeeded in disengaging itself, thanks to this support, establishes itself on the position Beaulieu, Longavesne, and the wood 1,100 yards west of the village. The two batteries of the 3rd group, divisional artillery, come into position at Riffin near point 181.

The commander of the 3rd group then allots the tasks to his batteries in accordance with the verbal instructions of the brigadier of the 10th brigade.

The battery at point 188 is to support the defence in the direction of Longavesne, which it flanks; the two others are to act to the east and west of Loueuse respectively. (See Diagram XVIII.)

Criticism.—It will be noted that in this retirement, and in the organization of the defence of the new position, the combined action of the infantry and artillery is much better provided for than in the defence of Loueuse. This is because the troops are under the same

commander, and because the artillery commander has been able to confer with the commander of the tactical unit. It will be seen later that the commander of the 5th divisional artillery did not omit to limit the zone of action of the counter-batteries of the 3rd group.

In the section of the 129th regiment, the action had progressed slowly. There had been no change in the situation until 10 a.m.

At this hour, the commander of the 1st group, divisional artillery, who is in command of the artillery at point 204 in the absence of the lieutenant-colonel of the divisional artillery, out reconnoitring, observes the progress of the Red Force, and notices that the 3rd group has retired. He converts one of the counter-batteries of the 2nd group into a battery to act against either infantry or artillery, in the direction between St. Deniscourt and Loueuse, in order to fill the gap caused by the departure of the 3rd group. He further enquires from the commander of the divisional artillery what is to be the limit of the zone of observation of the 2nd group towards this flank.

At 10.10 this question is settled. The 1st group receives orders to come into position on the slope south-west of point 204, facing Loueuse, in order to stop the Red infantry from issuing from it, while the 2nd group is to engage the whole of the artillery which was fired on by the two groups.

Criticism.—These movements are somewhat dangerous to execute.

Somewhat later, at 10.30, the 1st and 3rd groups being established in their new positions, the lieutenant-colonel redistributes the zones of observation between the three groups as follows:—

2nd group, section between Monsure wood and St. Deniscourt.

1st group, between St. Deniscourt and Loueuse steeple.

3rd group, section limited on the right by point 150 yards east of Loueuse steeple. (See Diagram XVIII.)

Red Force.

The 4th Division Resumes the Offensive.—Between 10 a.m. and 10.30 the 54th regiment captures Loueuse and point 194. The 67th has one battalion engaged in Boutavent wood, one near Loueuse château, and the last battalion on the march between Épeaux and Loueuse. The 54th takes Beaulieu as its new objective. The 8th brigade is about to resume the offensive, with two battalions of the 45th in the 1st line, direction of the attack—point 204. One battalion of the 47th is preparing point 181 for defence. The 87th (two battalions) is to be in reserve at St. Deniscourt.

As regards the 4th divisional artillery, the 2nd group (with the 7th brigade) has advanced by echelons to a position north of point 194, and, at 10.15, is in observation of the zone between Loueuse and Beaulieu, which is the direction of the enemy's retreat. The 2nd group (with the 8th brigade) has been since 9 a.m. on the ridge south-

west of St. Deniscourt; it has two infantry batteries and one counter-battery facing point 204.

As for the 3rd group, its commander has been called out to reconnoitre with the colonel commanding the divisional artillery, who is impatient to use it.

At 9 a.m. the 3rd group receives orders to move to the entrance to Omécourt, and at 9.40 the colonel commanding the divisional artillery orders it "to come into action near point 194, zone of action Morvillers to Beaulieu (exclusive)."

At 9.50 the colonel of the divisional artillery gives the following order to his lieutenant-colonel:—

"Bring up the 1st group (still limbered up) to a position near point 181 as soon as possible. Target, point 204. I have ordered the 3rd group to move by Omécourt on point 194, to engage point 204."

Criticism.—It will be noted that the 3rd group has a zone but not a task.

The 1st and 3rd groups have the same target. It was not the business of the commander of the divisional artillery to allot targets this duty devolved upon the commander of the attack.

About 11 a.m. the 3rd group opens fire with one battery on infantry in trenches west of Morvillers, and with the other battery on artillery at point 204. The 2nd group of the corps artillery (with the 8th brigade) is probably on the same target. At this period, the 1st group having come into action on the crest 181-194, the whole of the divisional artillery is together.

Criticism.—The situation of the 1st and 3rd groups, both supporting the attack on point 204, is the same as that which occurred with the 1st group and the 2nd group, corps artillery, at 7 a.m. The targets are not divided between the infantry batteries, nor the zones between the counter-batteries, because the two groups have not been placed under a single commander, and because they both belong to different commands, namely, those of the brigadier of the 8th brigade and the General Officer Commanding the Division.

The colonel commanding the divisional artillery then forms two artillery tactical units:

First unit, under the command of the lieutenant-colonel of the divisional artillery:

2nd group, corps artillery, supporting the attack on Morvillers.

1st group, divisional artillery, counter-batteries on point 204.

Second unit, under the colonel of the divisional artillery himself:

3rd group, divisional artillery, to fire on batteries west of Morvillers steeple (point 204).

2nd group, divisional artillery, ordered to reconnoitre a position on south-east of Loueuse to support the attack of the 54th on Beaulieu.

The lieutenant-colonel is to place himself under the orders of the brigadier of the 8th brigade, while his colonel places himself under the orders of the brigadier of the 7th brigade. (Diagram XVIII.)

Criticism.—The colonel commanding the 4th divisional artillery feels the necessity for establishing some order in the organization of the artillery command. But he belongs to that class of officers who suppose that a commander of divisional artillery has no further duties to attend to when he has handed over all his batteries to the commanders of temporary tactical units organized by his divisional commander. Consequently, in order not to remain idle, he himself takes over the command of the artillery of one of these temporary units. But his General Officer Commanding is now without an artillery commander. Now, it is precisely when all the artillery groups have been handed over to subordinate commanders, that the General Officer Commanding requires this senior artillery officer. For this is the moment to provide for getting back any batteries whose tasks are completed, and either to issue fresh orders as to their employment, or else to re-constitute the body of artillery in hand (*masse d'économie*) which will afterwards be drawn upon for the various requirements of the combat.

The colonel of the 4th divisional artillery should have left the command of the 2nd and 3rd groups to the senior group commander. Moreover, he might well have given only one group to the 7th brigade, keeping the other group in hand, ready to reinforce either of the two bodies of artillery. His only object in giving two groups to the 7th brigade was to create a command for himself.

The result of his going outside of his own proper duties is that the zones of observation of the counter-batteries are not allotted, and the 1st and 3rd groups are firing on the same body of artillery. Also, the 3rd group, divisional artillery, are firing on the same infantry target as the 2nd group, corps artillery. (See Diagram XVIII.)

At 11.45 the General Officer Commanding the 4th Division, anxious about the non-appearance of the brigade of Chasseurs-Zouaves on his right, considers that he is not strong enough to continue the offensive, and give the following order, which completely changes the disposition of his division :—

“The brigadier of the 8th brigade, with the 45th and the 2nd group of the corps artillery, will maintain touch between the main body of this division and the 3rd Division.

“The main body (the 7th brigade, one regiment of the 8th, and the 1st, 2nd and 3rd groups of the divisional artillery) will be under the direct orders of the General Officer Commanding the Division.

“The units in the front line of the 7th brigade will prepare the front : point 194—Loueuse, for defence ; the rest of the division will be ready to assume the defensive.

“The three groups in position at point 194 will be under the orders of the colonel commanding the artillery, who will use them to the best advantage as counter-batteries.”

At the moment when this order is given, manoeuvres cease for the day. (See Diagram XVIII.)

Criticism.—In reality, the General Officer Commanding has halted his division under the protection of the units already engaged. This being so, he should have organized two defensive sections :

On the left, the brigadier of the 8th brigade, with one regiment and a small force of artillery.

On the right, the brigadier of the 7th brigade, with his three or four battalions in the 1st line, and a few batteries.

Each commander of a defensive section, and not the colonel commanding the divisional artillery, would have employed his artillery in such fashion as best to co-operate in the defence.

Incidentally, it is not clear why the commander of the divisional artillery is ordered to use all his groups as counter-batteries. What is to be done if the enemy takes the offensive?

General Observations.—The phases of the combat conducted by the 4th Division were:

- (1) Defensive up to 7 a.m.
- (2) Offensive up to 11 a.m. with the 7th brigade, while the 8th brigade ceased its offensive movement about 7.30, and did not resume it till 10.30.
- (3) Defensive with the whole division from 11.15 onwards.

There should have been, corresponding to each of these phases, a certain distribution of artillery, and a method of employment of this arm corresponding to the tasks assigned to the infantry.

But, from the beginning of the day, the General Officer Commanding the Division found it impossible to make his own influence upon the battle felt. He had only one infantry battalion at his own disposal; and as for the two artillery groups which he might have kept in hand, he had got rid of them by 6.30 a.m.

6th Brigade.—In the neighbourhood of Morvillers, we have seen that the 6th brigade has to wait from 9 a.m. till the intervention of the 4th Division, which does not make itself felt till 10.30.

At 9.15 the lieutenant-colonel of the 3rd divisional artillery, who is in command of the 1st and 2nd groups, gives the following order:—

“The attack on Morvillers has ceased to advance. The whole of the 2nd group will be in counter-battery, engaging the enemy’s artillery to the right of point 204, as also one battery of the 1st group on the artillery left of point 204. The two other batteries of the 1st group will remain in reserve.”

At 9.40 a.m. he at last comes to the conclusion that he is wasting ammunition and tiring his men, and he withdraws the counter-batteries and places them in observation.

Criticism.—When the groups came into position at 8 a.m., the lieutenant-colonel of the 3rd divisional artillery neglected to delimitate the zones of observation of the counter-batteries. He now commits the same error of omission.

A more serious matter is that, under the pretext of the attack having ceased to advance, he places the whole of the batteries in action in counter-battery on point 204. He therefore leaves the enemy’s infantry free to assume the offensive. This is a repetition of the error committed at 11.15 by the General Officer Commanding the Division.

He causes two batteries of the 2nd group to execute a change of target through a considerable angle. This would be very difficult under fire.

At 10.30 a.m., when the 4th Division issued from St. Deniscourt, the brigadier of the 6th brigade decides to make a determined attack with two battalions on point 204, the two battalions in Monsure wood forming the pivot of the attack. The 1st and 2nd groups of the 3rd divisional artillery are to support the attack.

Criticism.—The brigadier of the 6th brigade comes to the sound conclusion that the capture of point 204 will entail the fall of Morvillers.

At 10.45 a.m. the lieutenant-colonel of the divisional artillery gives the following order :—

“The brigade is about to attack Morvillers, advancing to the west of Monsure wood. The artillery will prepare the attack. One battery of each group, in counter-battery, will engage the left of point 204. The preparation of the attack on Morvillers will not commence until the infantry advances.”

The execution of this movement commences at 11 a.m., but at this moment the manoeuvres cease for the day.

Criticism.—Although the lieutenant-colonel of the divisional artillery is at Le Ply, close to the brigadier, with whom it would have been easy to establish concerted action, he makes a mistake in pointing out the objective of the attack. He gives Morvillers as the objective, whereas it is point 204. His principal pre-occupation is to renew the artillery duel. Moreover, he forgets to allot the zones of observation of the counter-batteries. (See Diagram XVIII.)

General Observations.—It is noteworthy that from the outset of the action the brigadiers of the 5th and 6th brigades have had the whole of the troops in their own hands. The General Officer Commanding the Division is unable to intervene, for from 10 a.m. onwards he has no more reserves in hand.

Since, from this moment, he abandoned the 5th brigade to its fate, he might himself have conducted the attack upon point 204 and Morvillers, forming two temporary tactical units :

First unit, under the orders of the colonel commanding the 72nd regiment, and of one or two batteries, task to hold the enemy at Morvillers and to defend Monsure wood against any counter-attack.

Second unit, under the orders of the brigadier of the 6th brigade, composed of one battalion of the 72nd, two battalions of the 51st,* and four or five batteries. This unit to be entrusted with the principal attack on point 204.

* The 3rd battalion of the 51st being in reserve to ward off a counter-attack.

If we examine the events which occurred with the 6th brigade, we find that :

- (1) It was prepared to take the offensive from daybreak up to 7 a.m.
- (2) It commenced an offensive movement upon Monsure wood and afterwards upon Morvillers. This movement was stopped at 8.30 a.m., shortly after the capture of Monsure wood.
- (3) It again remained prepared to take the offensive up till about 10.30 a.m.
- (4) About 11 a.m. it commenced a determined attack upon point 204 and Morvillers, the former being the principal objective.

There should have been a certain method in the employment of the artillery, corresponding to each of these offensive and defensive phases, and suited to the requirements of the infantry.

It will also be noted that the attack on the position Morvillers-point 204 was conducted by two infantry brigades, belonging to two different divisions, and supported by six artillery groups, namely, the 1st, 2nd and 3rd groups of the 4th divisional artillery, the 2nd group of the corps artillery, and the 1st and 2nd groups of the 3rd divisional artillery.

The commander of the 2nd Army Corps might have avoided this mixture by delimitating the zones of action of the two divisions according to the features of the ground, which was naturally divided into two sections by Monsure wood.

Not having done so, he might, in the course of the combat (if he had received information in good time) have assigned the command of the attack to one of the brigadiers, or to one of the two divisional commanders, and have assigned the command of the artillery of the attack to a single artillery officer.

Failing the intervention of their superior commander, the brigadiers of the 6th and 8th brigades (who could not have been ignorant of each other's presence) should have each communicated his intentions to the other. The senior of the two would then have taken command of the troops ; he would have organized the command of the artillery, and would have reported this action to the Army Corps Commander.

Finally, failing the concerted action of the brigadiers, it should have been possible to rely on that of the artillery commanders.

Diagram XVIII shows that by concerted action it would have been possible to save the expenditure of a large proportion of the artillery.

I have already made the same observation regarding the attack on Grez by the 3rd Army Corps, on the 13th September.

EMPLOYMENT OF THE RESERVES.

Red Force.

The operations of the Chasseurs-Zouaves and the cavalry brigade present no interest from the artillery point of view.

Blue Force.

About 9.45 the commander of the Blue Force, having learnt that Loueuse is about to fall into the enemy's hands, orders the

brigadier of the Colonial Brigade "to be ready to execute, if required, a counter-attack starting from the south edge of Morvillers in the general direction of Omécourt . . . The brigade will detach a second battalion to cover the artillery group at point 189. The task of the two battalions and the group will be to flank the attack."

This order is executed between 10.30 and 11 a.m. About 10.30 the 1st group, 5th divisional artillery, had come into action south-west of point 204, facing Loueuse, to drive back the infantry who were issuing from that village. It is ordered by the commander of the divisional artillery to reconnoitre a position near point 188, in order to sweep the ground between St. Deniscourt and Loueuse, and, if required, to support "a counter-attack starting from Morvillers in the direction of St. Deniscourt."

The group comes into action in its new position at 10.50. (*See Diagram XVIII.*)

At the same time the commander of the corps artillery, with the object of strengthening the defence east of Morvillers, gives the following order :—

"1. To the commander of the 3rd group, corps artillery :

"The 3rd battery of the 1st group passes under your command. Bring your group and this battery into a position of observation south of point 182, west of the Morvillers-Crillon road.

"Zone of observation, from Mesnil-Valeran (inclusive) to east edge of Morvillers (exclusive). You will open fire on any artillery which exposes itself in this zone.

"2. To the commander of the 1st group :

"Place your two batteries in observation of the gun emplacements which have been located on the south-east edge of Morvillers."

"Zones of observation, north battery, Le Mesnil-Valeran and wood surrounding it. South battery, crest on left of Mesnil-Valeran.

"These two batteries will enfilade the targets which will appear in these zones.

"You will not open fire till after the 3rd group." (*See Diagram XVIII.*)

Finally, the 12th brigade, which has arrived at Séronville as Army Corps reserve, is ordered at 11 a.m. to move to the south of Morvillers and to prepare to attack Thérines, this attack to be simultaneous with that of the Colonial Brigade on St. Deniscourt.

Thus at 11 a.m. the offensive movement prescribed by the commander of the Blue Force was to be carried out by :

1. The Colonial Brigade, starting from the south of Morvillers; objective, Omécourt.

2. The 12th brigade, also starting from the south of Morvillers; objective, Thérines.

The only artillery which was to have taken part in this offensive movement was the 1st group of the 5th divisional artillery, which was in position at point 188, and whose task was to support, if required, "a counter-attack starting from Morvillers towards St. Deniscourt."

The manœuvres cease for the day before these attacks are launched.

18TH SEPTEMBER.

(Diagrams XIX, XX and XXI.)

SUMMARY OF THE MANŒUVRES OF THE 18TH.

During the manœuvres of the 17th, when, for the first time, I had an opportunity of conversing with the Minister for War, I pointed out to him how the results of the experiment of employing 30 batteries per Army Corps were vitiated by the undue extension of the fighting fronts. I had foreseen this extension, and had in vain called the attention of General Tréneau to it when, in December, 1909, he had communicated his scheme for the manœuvres to me. As the result of our conversation, General Brun ordered that on the following day (the 18th) the fronts were to be reduced to one-half of their extent.

Consequently, the Director of Manœuvres gave orders that the 3rd Division of the northern force and the 6th Division of the southern force were to be in 2nd line; that the other troops were to remain in their positions of the 17th, and that the area of operation of the two forces was to be bounded to the east by the line Viteaux wood-Martincourt.

The two Army Corps having, on the 17th, received orders from their respective commanders to resume the offensive, the commander of the Red Force ordered the 4th Division to attack on the front Thérines-Boutavent, and the brigade of Chasseurs-Zouaves to attack on the front Boutavent-Campeaux. The commander of the Blue Force ordered the 5th Division to attack on the front Monsure wood-Omécourt, and the 6th Division, reduced to one brigade and three groups, to march on Loueuse, covering its left by a flank detachment of one regiment and two groups.

On both sides the outer flank of the force endeavoured to envelop the flank of the enemy opposite to it. The result of this was an isolated action, as shown in Diagram XXI. The employment of the artillery in this separate area of the battlefield does not call for any remarks other than those made in the preceding chapters. I shall therefore make no further mention of it. I shall deal exclusively with the events on the front Thérines-Loueuse, namely:

On the east, the engagements around Monsure wood, between the 8th Red brigade and the 9th Blue brigade, supported by one group on the north and two on the south.

On the west, the engagements around Loueuse, between the 7th Red brigade and five regiments of the Blue Force, supported by nine batteries on the north and eighteen on the south.

Thus, twenty-four batteries of the southern force were deployed on a front of $3\frac{1}{2}$ miles. The difficulties which were encountered in getting this artillery into position, and in organizing its command, will give an idea of those which would have to be faced if thirty batteries were brought into action on a front of 4 to 5 miles.

ENGAGEMENTS AROUND MONSURE WOOD.

Red Force.

8th Brigade.—The 4th Division had been ordered to attack, at 6 a.m., on the front Thérines-Boutavent (inclusive), but it was antici-

pated by the 3rd Army Corps, whose attacks were launched at 5 a.m.

The 4th Division had previously organized three centres of resistance :

The first, between Loueuse and point 194, held by the 7th brigade, with the 1st and 2nd groups of the 4th divisional artillery.

The second, at point 181, south of St. Deniscourt.

The third, at Monsure wood.

I will first deal with the two latter points, held by the 8th brigade and the 2nd group of the divisional artillery.

At 6.30 a.m. the colonel commanding the 4th divisional artillery gives the following orders:—

“ Zone of observation of the counter-batteries of the three groups :

“ 2nd group, bounded to the right by the western exit of Morvillers.

“ 1st and 3rd groups, joint zone bounded on the left by the western exit of Morvillers.”

Criticism.—The first act of command of the colonel commanding the 4th divisional artillery, deserves to be noticed, for too often we have seen, on the preceding days, the divisional artillery commanders neglect their duty of dividing the zone of observation of the counter-batteries between the groups placed at the disposal of the different infantry commanders.

If the order of the commander of the divisional artillery had been properly carried out ; if the counter-batteries had not exceeded the limits of their zones of observation ; and if some of them had not transformed themselves into infantry batteries on their own account, the artillery of the southern force, in spite of its numerical superiority, would have found itself in a very awkward situation.

At 6 a.m. the 8th brigade occupies Monsure wood ; it loses it at 6.45, and re-takes it at 9.15. These minor combats, so far as the northern force is concerned, present little interest as regards the employment of artillery.

Blue Force.

9th Brigade.—The order issued by the commander of the Army Corps had directed that all the attacks were to commence at 5 a.m.

The 9th brigade was to attack on the front Monsure wood (inclusive)—St. Deniscourt.

The brigadier organizes two attacks :

On the right, two battalions of the 39th on Monsure wood.

On the left, two battalions of the 74th on St. Deniscourt.

At 5 a.m. the 1st and 2nd groups of the 5th divisional artillery had taken up the same positions as on the previous day, namely :—

2nd group, at point 204, east of the Morvillers-Loueuse road.

1st group, 2nd and 3rd batteries at point 204, on the left of the 2nd group, south of Morvillers-Loueuse road. 1st battery east of Morvillers, south of the cross.

At 5.30 a.m. the lieutenant-colonel of the 5th divisional artillery, who is in command of these two groups, allots their tasks as follows :—

1st group, infantry battery on the whole front St. Deniscourt-Monsure wood; will eventually supply batteries to accompany the infantry.

2nd group, in counter-battery, on the same zone.

The commander of the 1st group orders the 1st battery to support the attack of the 39th on Monsure wood and the two other batteries to take as their targets, the 2nd, St. Deniscourt, and the 3rd, the plateau north of Monsure wood, in tactical connection with the 74th regiment.

Criticism.—In an article published in the "Revue Militaire" of February, 1911, General Langlois condemns the tendency now frequently displayed by commanders to split up their artillery between several partial simultaneous attacks, instead of delivering successive attacks each supported by a large number of batteries under a single commander.

These remarks apply exactly to the procedure of the 9th brigade. It was obvious that the proper course was to seize Monsure wood before attempting the attack of St. Deniscourt. The 2nd group would have remained in counter-battery during the two attacks; the 1st group would have supported first the attack on Monsure wood and afterwards that on St. Deniscourt, with the necessary number of infantry batteries. The group commander would not have had to organize two tactical connections simultaneously.

From the moment when the brigadier made the mistake of launching two attacks simultaneously, he ought to have allotted one group to each of them. The lieutenant-colonel of the divisional artillery would then only have had to divide the zone of observation of the counter-batteries between the two groups. He would have followed the course of the combat, and would have taken back into the divisional command, at the proper time, any battery whose task was completed.

At 6.30 the 39th penetrates into Monsure wood. The commander of the 1st group orders his 1st and 2nd batteries to advance as batteries of accompaniment.

The record of firing of the 3rd battery, which remained at point 204, states that at 6.30 this battery opened fire on flashes visible south-west of St. Deniscourt. (See Diagram XIX.)

Criticism.—The temptation to change target is so great that the 3rd battery relieves the enemy's infantry of its fire even at the moment when the two other batteries are changing position. And this in order to fire on artillery which the three counter-batteries of the other group are there to engage.

At 6.40 the commander of the 2nd group, seeing the 1st group advancing, orders "In the same zone, engage artillery or infantry targets according to circumstances."

The 3rd battery fires at 6.15 on infantry, at 6.30 on artillery, and at 7 on infantry again. (See Diagram XIX.)

Criticism.—Thus, while one battery of the 1st group, ordered to act as an infantry battery, transforms itself into a counter-battery on its own account, the commander of the 2nd group, who has been ordered to fire as a group of counter-batteries, gives his captains permission to transform themselves into infantry batteries whenever they please.

This is organized disorder.

At 8.45 the General Officer Commanding the Division sends the following order to the commander of the 5th divisional artillery :—

“Support the attack on St. Deniscourt with all the artillery at your disposal.”

Criticism.—The meaning of the expression “all the artillery at your disposal” is incomprehensible.

The 3rd group has been handed over to the 10th brigade. The only artillery available for the support of the 9th brigade is therefore the 1st and 2nd groups, which have already been handed over to it. It would have been sufficient to inform the lieutenant-colonel of the divisional artillery that, Monsure wood having been taken, the whole of the batteries under his command were now available for the attack on St. Deniscourt.

At 8.50 a.m. the colonel commanding the 5th divisional artillery gives the following order :—

“The Colonial Brigade is about to deliver a counter-attack in the direction : point 194, Omécourt.

“The 5th Division is about to counter-attack in the direction : west end of St. Deniscourt, point 163.

“The divisional artillery will support this attack.

“Tasks will be as follows : 2nd group at point 204, with one infantry battery and two in counter-battery. The 1st group will accompany the attack.”

Criticism.—The colonel commanding the divisional artillery is going outside of his duty. It is not his business, but that of the lieutenant-colonel commanding the 1st and 2nd groups, to divide the tasks between the batteries.

Moreover, the order is not clearly worded. It appears to imply that the divisional artillery is to support the attack of the Colonial Brigade.

At 9 a.m. the commander of the 2nd group gives the following order :—

“3rd battery, support the counter-attack directed on the west end of St. Deniscourt and point 163.

“1st battery, counter-battery. Zone 70 thousandths left of aiming point.

“2nd battery, counter-battery. Zone 120 thousandths left of 1st battery zone.”

The record of firing of the 3rd battery is as follows :—

“ 8.55 a.m. Order received from General Officer Commanding the Artillery : ‘ An attack is feared from the direction of Omécourt ; prepare to intervene if necessary.’ 9.5, order received : ‘ Prepare to support a counter-attack in the direction of St. Deniscourt and Omécourt.’

“ 9.10, on artillery half-way between St. Deniscourt and Omécourt.

“ 9.15, support of our infantry advancing to the crest.

“ 9.20, increase range, and fire on reserves.”

Criticism.—The 3rd battery changes its target three times in a quarter of an hour. Though ordered to support the attack, it fires on the enemy's artillery. It appears, moreover, to be supporting the attack of the Colonial Brigade, which, as will be seen, is directed on Omécourt.

According to the record of firing, here we have the General Commanding the Army Corps Artillery coming or sending to a mere captain to tell him that an attack is feared from Omécourt. It is inexplicable that the General Officer Commanding the Artillery should have intervened in a matter which did not concern him. Neither did it concern the 9th brigade, since Omécourt is not in its section of the attack.

About 9.30 the 74th regiment captures point 181. The 2nd group advances, and comes into action beside the 1st. At this moment manœuvres cease for the day.

ENGAGEMENTS AROUND LOUEUSE.

Red Force.

7th Brigade.—The brigadier of the 7th brigade had issued orders on the previous day :

To the 54th, starting from the front St. Deniscourt, point 194, to attack Beaulieu.

To the 67th, to attack between Beaulieu and Longavesne.

To the 1st and 3rd groups of the 4th divisional artillery, in position north of point 194, to support these attacks, detaching one battery to the west of Loueuse if necessary.

Criticism.—From the moment when the brigadier decided to deliver two separate attacks, and to support them with artillery, he should have organized two temporary tactical units. This would not have prevented him from fixing the positions of the artillery himself.

At 5.30 a.m. the lieutenant-colonel of the 4th divisional artillery posts the 1st group in the position which it occupied on the previous day, west of point 181, which is very suitable to the support of the attack.

At 5.35 the brigadier orders the commander of the 3rd group to send one battery to the west of Loueuse, to endeavour to act in the direction of the west of Beaulieu.

At 5.45 he sends the following order to the commander of the 3rd group :—

“The enemy is attacking Loueuse and point 194. Bring your two batteries into position behind the crest north of point 194. Target, enemy's artillery east of Beaulieu.”

At 5.50 a.m. the 2nd and 3rd batteries come into action 550 yards north of point 194.

Criticism.—If two temporary tactical units had been formed, the colonel of the 67th would himself have thought of sending a battery to the west of Loueuse.

The brigadier should not have engaged the remainder of the 3rd group as counter-batteries. He should have left at least one section to act as an infantry battery firing on Beaulieu.

This order was not carried out very strictly. The 2nd and 3rd batteries fired indifferently on the enemy's infantry and artillery, while the 1st battery, which was designated as an infantry battery, fired upon the artillery already engaged by the 2nd and 3rd batteries.

At 6.15 a.m. the General Officer Commanding the 4th Division informs the commander of the Army Corps of the situation, and of his intention to resume the offensive along the whole front as soon as the groups of corps artillery, of whose despatch he has been informed, have arrived.

At this moment the colonel commanding the corps artillery receives the following order from the commander of the Army Corps :—

“As soon as possible, place two groups of the corps artillery at the disposal of the General Officer Commanding the 4th Division, engaged on the front Loueuse-St. Deniscourt, and whose station is near point 194.”

At 6.45 a.m. the 1st and 2nd groups of the corps artillery advance, under the orders of the lieutenant-colonel. The latter rides in advance of the column and learns, before reaching Loueuse, that this supporting point is in the enemy's hands. Being unable to advance further, he halts his batteries and proceeds to find the brigadier of the 7th brigade, whom he meets north of Loueuse, and who confirms this report. He then assembles his batteries in a position of readiness, at the north-west edge of Bocqueaux wood.

At about 7 a.m. the Red Force had been driven out of Loueuse. The General Officer Commanding the 4th Division then causes a counter-attack to be delivered by the 16th battalion of the Chasseurs. This attack issues between Omécourt and Loueuse in the direction of point 194. At the same time the General Officer Commanding the 6th brigade sends the 51st regiment of the 3rd Division from the neighbourhood south of Épeaux to the ravine running north and south, 550 yards west of Loueuse. This village is re-captured, at about 8 a.m., by the Red Force, and the enemy is driven back to a line 550 yards south of Loueuse.

At 7 a.m. the commander of the 4th divisional artillery gives the following order to the 3rd group :—

"The enemy has captured Loueuse. Occupy the crest between Épeaux and Bocqueaux wood, facing Loueuse." This retirement is carried out by echelon of batteries. The group does not open fire from this position.

The 1st group remains in action south-west of St. Deniscourt.

Criticism.—The colonel commanding the 4th divisional artillery had no right to give orders to the 3rd group, which belonged to the brigadier of the 7th brigade.

At 7.50 a.m. the commander of the Army Corps gives the following verbal order to the commander of the corps artillery :—

"I wish to recapture Loueuse at any cost. Post the two groups under the orders of the lieutenant-colonel so that they can support the attack which will now be delivered with this object."

Criticism.—The commander of the Army Corps, who, at 6.15, had placed two groups of the corps artillery at the disposal of the General Officer Commanding the 4th Division, should have left this officer to dispose of them as he considered best ; the more so that the latter had already reported the situation, stating his intention of resuming the offensive as soon as he had received the groups in question.

In compliance with the order received from the commander of the Army Corps, the colonel commanding the corps artillery gives the following order to his lieutenant-colonel :—

"Post the two groups of the corps artillery on the right of the 3rd group of the 4th divisional artillery, which, no doubt, will be placed under your command, and take the necessary steps to support the attack which is about to be delivered with the object of the recapture of the whole of Loueuse. The groups will remain in observation till the attack is launched."

Criticism.—The colonel commanding the corps artillery does his best to give full instructions to his lieutenant-colonel. But he cannot tell him which are the troops whose attack he is to support. He does not know himself, not being under the orders of the General Officer Commanding the Division.

At 8.5 a.m. the General Officer Commanding the 4th Division orders the lieutenant-colonel of the corps artillery to place his two groups beside that of the 4th Division at the south edge of Bocqueaux wood.

These groups do not have to come into action, as the attack of the 16th Chasseurs succeeds at this moment.

Criticism.—It is a happy chance that the General Officer Commanding's order is not in contradiction to that of the colonel commanding the corps artillery. Unfortunately the General Officer Commanding does not complete it. He, also, forgets to say which troops are going to execute the attack. Moreover, he forgets to designate the commander of the three groups, a point which the colonel commanding the corps artillery had thought of.

At 8.20 the commander of the Army Corps gives the following order to the colonel commanding the corps artillery :—

"The enemy is evacuating Loueuse. The two groups under the lieutenant-colonel will move to the crest at point 194, to co-operate with the 4th divisional artillery in ensuring the safety of the front Loueuse-St. Deniscourt."

The colonel commanding the corps artillery transmits this order to his lieutenant-colonel, adding that he "is still under the orders of the General Officer Commanding the 4th Division."

Criticism.—The colonel commanding the corps artillery is endeavouring to provide against errors which may arise from this misconception of the functions of the different commanders.

At 8.30 the general commanding the artillery of the Army Corps orders the 3rd group of the corps artillery to move to the north of Épeaux; while at 8.40 the commander of the Army Corps orders the colonel commanding the corps artillery to "shift the 3rd group of the corps artillery nearer to the position at Loueuse, posting it near Omécourt."

Criticism.—It is the business of the general commanding the artillery, and not of the Army Corps commander, to shift the groups which are in hand to the neighbourhood of positions where they will probably be wanted later on. See last paragraph, Section 9, Chapter V, of Regulations of 8/9/1910.

It is fortunate that the officer sent by the colonel commanding the corps artillery did not succeed in finding the 3rd group, as otherwise the commander of this group would have received two contradictory orders.

At 8.45 the General Officer Commanding the 4th Division gives the following order to the colonel of the 4th divisional artillery :—

"Two groups of the corps artillery are placed at the disposal of the General Officer Commanding the Division. Take command of the whole of the artillery in the Loueuse section, at point 194. The group on the extreme left will remain under the orders of the brigadier of the 8th brigade."

Criticism.—Here we have the 1st and 2nd groups of the corps artillery under the orders of the lieutenant-colonel of the corps artillery, and the 1st and 3rd groups of the divisional artillery, under the orders of the lieutenant-colonel of the divisional artillery, all four working in tactical connection with the 7th brigade, while the 2nd group of the divisional artillery is working in tactical connection with the 8th brigade. They are all under the command of the colonel of the divisional artillery. This officer has the right to require from each of them reports of their action. It is his duty to reinforce them if necessary, and to withdraw them when their tasks are accomplished. In a word, he is the administrative commander of the whole of the artillery with the division.

Now the colonel of the 4th divisional artillery cannot, at the same time, administer the five groups under the orders of the General Officer

Commanding the Division, and command four of them under the orders of the brigadier. He should have delegated the command of the four groups to the senior of the two lieutenant-colonels, or to the colonel of the corps artillery, whom he might have borrowed from the Army Corps commander.

The order of the General Officer Commanding the Division adds :—

“Divide your groups so as :

“(1) To neutralize the enemy's artillery visible behind crest between points 206 and 188 ;

“(2) To support the offensive of the 7th brigade in the direction of point 188, and that of the 8th brigade on Morvillers.”

Criticism.—After having directed that the group on the extreme left is to remain under the orders of the brigadier of the 8th brigade, the General Officer Commanding the Division now orders that the groups on the right, who are acting in concert with the 7th brigade, are also to support the attacks of the 8th brigade. Are we to understand that the colonel of the divisional artillery, who is subordinate to the General Officer Commanding the Division for the employment of the artillery, is to be subordinated to the brigadiers as regards the direction of the fire of the batteries ?

The colonel of the 4th divisional artillery organizes the artillery as follows :—

Under the command of the lieutenant-colonel of the corps artillery :

1st group, corps artillery, and 3rd group, 4th divisional artillery, north of point 194 and the Loueuse-Morvillers road.

2nd group of the corps artillery, east of Loueuse and south of above road. Zone of action, from point 204 to Beaulieu.

Criticism.—The colonel forgets the first group of the 4th divisional artillery. He does not employ his lieutenant-colonel. He allots the zones, but does not designate the objective of the attack.

The order given by the lieutenant-colonel of the corps artillery shows the effects of this omission. This order runs : “Each group will fire upon any artillery or any infantry visible in its zone.” The attack would not have succeeded under such conditions.

About 8.50 a.m. the 2nd group, corps artillery, is in a position of readiness at the north exit from Loueuse. Its commander goes out to reconnoitre towards the east exit from this village. He there meets the brigadier of the 7th brigade, who informs him that the 67th is issuing from the village and that he is covered on his right flank. The batteries are ordered to advance to the east exit from Loueuse. At this moment the enemy's infantry appears to the south of the village and the 67th retreat. A hostile battery comes into action south of Loueuse and enfilades the artillery at point 194. The 2nd group of the corps artillery returns to its position of readiness

north of Loueuse, and its commander goes to replace himself at the disposal of the general commanding the artillery.

Criticism.—The commander of the 2nd group, corps artillery, fortunately met the brigadier of the 7th brigade, and endeavoured to establish tactical connection with the infantry, thus repairing the omission of the colonel commanding the divisional artillery.

At 9.15 the commander of the Army Corps gives the following order to the colonel of the corps artillery :—

"Move the 3rd group of the corps artillery to the Loueuse-St. Deniscourt position, where it will come into action in concert with the 4th divisional artillery and the remainder of the corps artillery."

Criticism.—The commander of the Army Corps continues to usurp the functions of the brigadier of the 7th brigade. He gives the order to engage the 3rd group at the moment when the 2nd group is obliged to retire. However, this order could not be executed, as the manœuvres ceased at 9.30 a.m.

Blue Force.

10th Brigade, 5th Regiment, Colonial Brigade and Corps Artillery of the 3rd Army Corps.—The Army Corps order directed the 5th Division to attack on the front Monsure wood, Omécourt, and the 6th Division to move on Loueuse, covering its left with a flank detachment composed of one regiment and two groups.

The commander of the Army Corps having kept the 11th brigade at his own disposal, the 6th Division was reduced to the 5th regiment. The objectives of the attack were therefore allotted as follows :—

Omécourt, 10th brigade and 3rd group, 5th divisional artillery.

Loueuse, 5th regiment and 3rd group, 6th divisional artillery.

All attacks are to start at 5 a.m.

Criticism.—When dividing the zones of attack between the 5th and 6th Divisions, the commander of the Army Corps forgot that it was not possible to advance on Omécourt before taking Loueuse ; and that in consequence these two villages should have been assigned as successive objectives to the same unit ; or, at least, they should both have been included in the section of the attack assigned to the same divisional commander, who would have given orders to attack them in succession.

This precaution having been omitted, it was the duty of the commander of the Army Corps to arrange for successive attacks and to organize the command of his artillery with this object in view.

At 5 a.m. the brigadier of the 10th brigade orders the four battalions under his command, which are north of point 188, to attack in the direction of Loueuse.

"The group of artillery at point 188 will support the attack of
(B 1635)

the 10th brigade in the direction of Loueuse and Omécourt. One battery will prepare the attack on Loueuse, and the two others will remain in observation."

Criticism.—The brigadier repairs the error committed by the Army Corps commander, but he is not aware that the 5th regiment has received orders to attack Loueuse, supported by the 3rd group of the 6th divisional artillery.

At 5.30 a.m. the colonel of the 5th regiment gives the following order to the commander of the 3rd group, 6th divisional artillery :—

"Reconnoitre and occupy a position near point 188, east of Beaulieu, to support the attack on point 194 and Loueuse."

Criticism.—The attack on Loueuse is thus conducted by two bodies of infantry and supported by two artillery units under the orders of different commanders.

Between 6 a.m. and 6.30 the 10th brigade carries the enemy's trenches at the east edge of Loueuse. The brigadier orders the commander of the 3rd group, 5th divisional artillery, to send a battery to the south of Loueuse, "to support the attack on the south salient of the village."

The 3rd battery of the 3rd group, 5th divisional artillery, receives the following order from its group commander :—

"Place yourself at the disposal of the brigadier of the 10th brigade, and take your orders direct from him."

The record of firing of the 3rd battery runs as follows :—

"Change of position, the battery being placed at the disposal of the brigadier of the 10th brigade for the attack on Loueuse. At this moment the 6th Division advances to the attack, and the brigadier of the 10th brigade changes the direction of his advance and proceeds to attack Omécourt. He orders the battery to take up a position at point 194, and to support the attack on Omécourt."

Criticism.—It will be noted that the 3rd battery successively supports the attack on Loueuse and on Omécourt. But it is not clear why this battery in particular should receive its orders directly from the brigadier. The result is that this officer forgets his two other batteries. Thenceforward these receive no further orders. They do whatever they please, and so do the batteries of the 3rd group, 6th divisional artillery. Diagrams XIX, XX and XXI show that from 7 a.m. onwards all six batteries are acting as infantry batteries. Not one is engaging the enemy's artillery.

At 6.10 a.m. the general commanding the artillery gives the following order to the commander of the corps artillery :—

"Place one group at the disposal of the General Officer Commanding the 6th Division to support the attack on Loueuse."

The colonel commanding the corps artillery consequently gives the following order to his 4th group :—

"You are placed at the disposal of the 6th Division. Place your group in a position of observation on the crest at Beaulieu, point 188, facing Loueuse, to support the attack on Loueuse. Place yourself in tactical connection with the General Officer Commanding the 6th Division. This order to be carried out immediately."

The group commander endeavours to find the General Officer Commanding the 6th Division, but fails. He meets the brigadier of the 10th brigade, who informs him that he does not belong to the 6th Division. He next meets the colonel of the 6th divisional artillery, who tells him that he considers the 3rd group, 6th divisional artillery, sufficient for the purpose. Finally he arranges to act with the colonel of the 5th regiment, employing his group as batteries accompanying the infantry.

Criticism.—There are already two groups, belonging to two different commands, before Loueuse. The Army Corps commander now sends a third group, which no one had asked him for, and which belongs to yet another command.

This group is to support the attack of the 6th Division, but it is the colonel commanding the corps artillery who selects its position.

The General Officer Commanding the 6th Division does not seem to have been informed that a group of the corps artillery had been placed at his disposal. If he had been so informed, the information would have been of no use to him, because his divisional artillery commander was wandering about in the firing line instead of remaining at his post with his General Officer Commanding.

About 8 a.m. the 10th brigade can make no further progress. The 5th regiment reaches the north edge of Loueuse. The commander of the 3rd Army Corps returns the 11th brigade to the General Officer Commanding the 6th Division, one regiment being then placed at the disposal of the brigadier of the 12th brigade at Ernemont, while the other remains in reserve.

The Colonial Brigade is in reserve in the ravine south of Morvillers.

At this moment the counter-attack of the 4th Division is delivered, and the Blue troops are driven back to 550 yards south of Loueuse.

At 8.15 the colonel commanding the 6th divisional artillery orders his 3rd group to retire to point 188 to support the attack on Loueuse, which is to be attempted again.

THE REMAINDER OF THE CORPS ARTILLERY JOINS IN THE COMBAT.

At 8.10 the general commanding the artillery gives the following order to the colonel of the corps artillery :—

"In consequence of reports now received, we are halting on the line Loueuse St. Deniscourt. Place two groups in observation on the plateau at point 204, south-west of the road. The 3rd group will also be in observation on the left of the 1st."

In compliance with the above, the colonel of the corps artillery gives the following orders to his lieutenant-colonel :—

"Take command of the 1st, 2nd and 3rd groups, and place them

in position on the plateau at point 204, in observation of the zone Loueuse-Omécourt."

At 8.25 the lieutenant-colonel puts the following question to the commander of the 3rd group, 5th divisional artillery :—

"Three groups of the corps artillery are about to come into action on the same position as yourself. What is your task and what are your targets?"

At 8.35 he gives the following orders to his three groups :—

"1st group.—Bring your group into action with its right 110 yards from the Morvillers-Loueuse road. Leave room between yourself and the battery of the 3rd group, 5th divisional artillery, for a battery of the 2nd group. You will be in observation. Your right battery to face St. Deniscourt, front 200 thousandths to the right of that watched by the neighbouring battery of the 3rd divisional artillery. Your two left batteries to face Loueuse. Front 300 thousandths to the left of the point where the Morvillers road enters Loueuse. Open fire immediately on any target which appears in this zone."

"2nd group.—Place your group in line with the two batteries of the 3rd group, 5th divisional artillery. Your two left batteries will be between these two batteries, and your 3rd battery on the right of them, on the left of the 1st group. You will be in observation. Your zone will be 300 thousandths to the left of the point where the Morvillers road enters Loueuse, front 500. Open fire immediately on any target which appears on the plateau on the outskirts of Loueuse."

"3rd group.—Place your group on the left of the two batteries of the 3rd group of the 5th divisional artillery already in action. You will be in observation. Your zone will be 400 to the right of the point where the Morvillers road enters Loueuse. Front 500. The battery of the 3rd group, 5th divisional artillery, nearest you, is watching a front of 100 thousandths right and left of Omécourt steeple. Open fire immediately on any target appearing in your zone."

Finally, at 8.50, the lieutenant-colonel of the corps artillery puts the following question to the commander of the 3rd group, 6th divisional artillery, whose group has just come into action on the right of the corps artillery :—

"Report to me your targets and zones of observation, in order to enable me to allot the zones and the targets of the batteries on your right, which are under my command."

Criticism.—The first three groups of the corps artillery are sent to Morvillers plateau without any task. They are simply told to take up a position of observation. They are not placed at the disposal of any infantry commander.

The lieutenant-colonel of the corps artillery is reduced to asking the groups already in position what their targets may be. He does all he can to put some order into the arrangement of the lines of fire, in order to prevent the zones of observation from overlapping. By comparing Diagram XXI with Diagrams VIII, XII and XV, it will be seen that the distribution of the zones is much more satisfactory than on the 16th. But this is all that the lieutenant-colonel can do. He knows nothing about the situation; he is therefore unable to

point out either the objective of an attack if his own troops are on the offensive, or the probable direction of the enemy's attack to be watched in case his own troops are on the defensive. He cannot detail either counter-batteries or infantry batteries. If he did so, he would risk finding no artillery in the zones of the counter-batteries, and no infantry in the zones of the infantry batteries. He therefore orders his batteries to "fire on any targets which may appear in their zones."

The batteries do not fail to take advantage of this latitude. At certain periods almost all of them are firing on artillery; at other periods, the whole of them are on infantry.

Moreover, the records of firing show that in forty minutes the 3rd group fired 600 rounds. This blaze of fireworks would have produced no useful effect. It is not enough to make a noise, nor even to hit the enemy; the targets which we hit must be such that it is tactically important to destroy them.

Finally, Diagram XXI shows that the 2nd group of the corps artillery and the 5th group of the divisional artillery are mixed up. From left to right we have: one battery of the corps artillery, one of the divisional artillery, two of the corps artillery, and two of the divisional artillery. The transmission of orders would have been exceedingly difficult if their tasks had been assigned to these batteries.

Altogether, on a front of 2,750 yards, extending from Beaulieu to Morvillers, the front which all the troops are attacking, we find eighteen batteries. These include six of the 5th Division, three of the 6th Division and nine of the corps artillery. This force of artillery lacks the single commander, who is indispensable in order to allot the artillery judiciously to the different attacks (second para., Section 36, Chapter V, Regulations of 8/9/1910), to detail batteries to accompany them (second para., Section 31), to keep himself informed as to the course of the combat (fourth para., Section 36), to receive the reports from the batteries and arrange for their withdrawal when their tasks are accomplished (second para., Section 29), and, finally, to allot fresh tasks to them when necessary.

Counter-Attack of the Colonial Brigade.—At 7 a.m. numerous hostile troops, observed in the direction north of Omécourt, advance in a southerly direction, and reach the north edge of the plateau extending from Loueuse to St. Deniscourt and Morvillers. The commander of the 3rd Army Corps decides to drive these troops back into Omécourt ravine before they can gain a footing on the plateau. He therefore gives the following order to the Colonial Brigade:—

"Move to the south-west of Morvillers between this village and the ruined mill, and be ready to execute a counter-attack in the direction of point 194 (east of Loueuse) and Omécourt."

In the meantime the 10th brigade and the 5th regiment have resumed the attack on the front Omécourt-Loueuse. At 9 a.m. the lieutenant-colonel of the corps artillery gives the following order to his three groups:—

"Open a rapid fire on the crests or edges of woods behind which the enemy has retired, within your zone of observation, whenever a party of our infantry advances over the crest where we are in position to the attack of Loueuse and Omécourt (counter-attack of the Colonial Brigade)."

The Colonial Brigade is formed behind the crest points 188, 204, and about 9 a.m. it emerges from cover, two regiments abreast, and advances in the direction of Omécourt, taking with it the 36th regiment of the 10th brigade.

In order to execute this movement, it has to pass through the line of batteries, and not only through the intervals between the groups, but between the guns themselves.

The artillery is obliged to cease firing in order to allow the infantry, whose attack it has to support, to pass through it.

Manceuvres cease at 9.30 a.m.

Criticism.—The order to attack given to the Colonial Brigade makes no mention of the artillery. The commander of the attack would therefore not have known to whom to apply, in case he required the support of artillery.

This attack would have failed, even if the combined action of the two arms had been realized. The artillery was obliged to cease firing at the very moment when the intensity of its fire should have been doubled. The "plus" rounds fired at the batteries would have taken effect on the infantry in their positions of assembly.

No doubt the Colonial Brigade might have been able to find another place of assembly, and other routes by which to advance. But it is not the business of the infantry to manœuvre so as not to interfere with the artillery; it is the artillery which must place itself so as not to interfere with the movements of the infantry.

The infantry does the actual fighting (*mène le combat*). The action of the artillery must be subordinated to it.

Concluding Remarks.—When the manœuvres ceased, the whole of the artillery of the Blue Force was expended. The Red Force, on the contrary, had still four groups available in hand. The check of the counter-attack of the Colonial Brigade would therefore have resulted in disaster. Even if this attack had been successful, the success could not have been followed up.

How would it have been possible, under the circumstances, "to withdraw the batteries whose fire served no definite purpose, or was not indispensable to produce the effect desired?" (Section 29, Chapter V, Regulations of 8/9/1910.) There was not a single battery whose fire served any definite purpose; the batteries had divided the horizon between them, and had received no orders except to fire on anything which might appear in their zones of observation. The infantry was attacking all along the line. The artillery was firing at the whole front. Of which group could it have been said that its task was accomplished when this attack or that had succeeded?

Moreover, who was to carry out the withdrawal of artillery in this force of twenty-four batteries under three different commanders?

This is a suitable place to repeat what I have said in the introduction to this book, which is here very much to the point :

"It is of little consequence whether, on a front of $3\frac{1}{2}$ to 4 miles, we can deploy thirty batteries, if these are placed without any definite task ; if the tasks assigned to them are not useful tasks ; or if, even though useful, they cannot be carried out from the positions which are occupied."

RECAPITULATION OF THE PRINCIPAL OBSERVATIONS MADE IN THE COURSE OF THIS BOOK.

SUPPORT OF THE ATTACKS BY ARTILLERY.

What should have been Done.

Necessity for Tactical Connection.—To ensure the effective support of an attack, it is not sufficient for the artillery to fire without discrimination on the objective of the attack. The shells must fall at the right moment and at the right place. It is the object of the direct tactical connection between the troops who execute the attack, to determine the point to be struck and the moment of striking. This is the connection prescribed by Section 38, Chapter V, of the Regulations of 8/9/1910. But this tactical connection cannot be established unless the officers concerned are fully instructed as to their joint task by the orders of their superior commander.

Ministerial Circular of 10/3/1910 lays down that this task is clearly defined.

"When it has been possible to instruct the artillery as to the objective of the attack, the troops charged with its execution, the dispositions made by the commander of these troops, and the known or presumed positions of the enemy's batteries."

Method of Instructing the Artillery as to its Task.—The orders issued by the commander of the force form the basis of tactical connection. If these orders are incomplete ; if they leave the infantry ignorant of the place where the artillery unit which is ordered to support its attack is to be found ; if the artillery unit cannot find the infantry which it is to support ; then there can be no possible connection, not even that which may be established by troops working in sight of each other (*liaison à vue*). The artillery is then reduced to firing according to its own ideas, and the attack is badly supported by the guns.

If the two arms are not in agreement, at least as to the objective of the attack, it is as bad as if no artillery were present. It may be even worse, since the artillery is then liable to fire on its own infantry.

A Single Set of Orders.—The best means of ensuring that nothing is forgotten : the simplest and quickest method : is to frame a single set of orders addressed both to the infantry and to the artillery. The two arms, being then clearly instructed as to their joint task, will have no difficulty in establishing tactical connection.

The set of orders issued to the artillery is completed by adding the instructions necessary for the information of the artillery alone.

The whole of the preceding recommendations had been communicated for compliance, both verbally and in print,* to the Army Corps detailed to take part in the Picardy Manœuvres, and which it was my duty to inspect, either as a member of the Superior Council of War, or as Inspector General of Field Artillery. I have therefore the right to comment with some severity upon the manner in which the higher commanders instructed the artillery as to their tasks.

What was actually Done.

In the whole of the collection of attack orders made by me in the course of the manœuvres, I have not found a single order fit to cite as a pattern. Even the best are lacking in one respect. All are addressed separately to the infantry and to the artillery.

Most of these orders agree in the instructions to the two arms as to the objective of the attack ; but they do not contain the information necessary to establish tactical connection.

Some of them omit to mention the objective of the attack ; others contain false or contradictory instructions ; some even designate friendly troops as the objective.

It would occupy too much space to cite all the orders open to criticism. I will only mention a few of them.

Insufficient Instructions as regards Tactical Connection.—On the 13th, at about noon, the commander of the advanced guard of the 5th brigade orders the 2nd battery, 3rd group, 3rd divisional artillery, to "support the attack of the infantry on Gaudechart." But he does not say which infantry.

At 1.15 the brigadier of the Colonial Brigade decides that the 3rd group, 6th divisional artillery, is to support the attack of the 23rd colonial infantry on Grez. But he does not inform the colonel of the 23rd.

Again, the commander of the 6th divisional artillery orders the 3rd group to support the attack on Grez. But he does not mention that this attack is to be made by the 23rd.

At 1.30 the brigadier of the 9th brigade orders the 2nd group, 5th divisional artillery, to support the attack on Grez. But he does not state by whom this attack is to be executed, nor does he state what is known about the enemy.

On the 17th, at 7 a.m., the 128th regiment is ordered to take Le Mesnil-Valeran, and the 3rd group of the 3rd divisional artillery is ordered to support the attack on this place. But the two arms are ignorant of each other's presence, and the umpire decides that this attack cannot succeed, "no tactical connection being established."

On the 17th, at 10.30 a.m., the commander of the 5th divisional artillery informs the 1st group that it will eventually support a counter-attack starting from Morvillers and directed on St. Deniscourt. But he does not say which troops are to execute this attack.

* War Office Note of 21/11/1909 on exercises to be executed on the map during the winter of 1909-10.

War Office Note of 25/5/1910 summing up the principal remarks made in the course of the manœuvres and map exercises executed in 1909-10.

Again, the Colonial Brigade is ordered to deliver a counter-attack from Morvillers on St. Deniscourt, but nothing is said of any artillery in support.

On the 18th, at 9 a.m., the Colonial Brigade is detailed to attack Omécourt, supported by the corps artillery. But in the order received by the Colonial Brigade there is no mention of artillery.

Insufficient Instructions as regards the Objective of the Attack.—On the 12th, at 10.30, the brigadier of the 10th brigade, wishing to capture Broquiers, places two batteries in observation north-east of Monceaux, and orders the 3rd battery to follow the advance of a regiment in the 2nd line. Not one of these batteries knows what is the objective of the attack, what infantry are attacking it, who commands the attacking infantry, or what dispositions he has made to take the village. Accordingly, not one of them fires on the objective of the attack. The two batteries at Monceaux are content to fire at the enemy's artillery.

On the same day, at noon, the brigadier of the 10th brigade wishes to capture point 213. He orders the 1st group, 5th divisional artillery, into action, their task being "to support, eventually, the advance on point 213." The word "eventually" induces the group commander to believe that he will receive further orders. He receives none, and therefore does not fire on the objective of the attack. He is content to fire at the enemy's artillery. The umpires decide that this attack cannot succeed, not being supported by artillery.

On the 14th, at 8.10 a.m., the brigadier of the Colonial Brigade, who has received orders to attack on the front Rieux, Grez, informs the 3rd group of the corps artillery that he is about to deliver two attacks, separated by the Prévillers-Le Hamel road, and orders him to "support the attack" without telling him which attack, nor the objective of either of them.

On the 18th the groups supporting the attack of the 4th Division on the front Beaulieu, point 204, receive orders from the lieutenant-colonel of the corps artillery to fire on any infantry and any artillery which may appear within certain zones. No objective of any attack is mentioned.

On the same day the first three groups of the corps artillery are deployed on Morvillers plateau to support the attacks of the 3rd Army Corps. They receive no instructions as to the objective of any attack. They are simply told to occupy a position of observation.

Contradictory Instructions as regards the Objective of the Attack.—On the 12th, at 1.30 p.m., the General Officer Commanding the 5th Division orders the 3rd group of his divisional artillery to support the infantry advance on La Chaussée. He does not state which infantry. He is moreover not aware that at this moment the 10th brigade is at a standstill before point 213. Consequently the 3rd group does not fire on the objective of the attack; it fires at a target which the infantry are not attacking.

On the 17th, at about 7 a.m., the 1st group of the 4th divisional artillery, detailed to support the attack of the 8th brigade on St. Deniscourt, instead of being handed over to the brigadier, is left under the orders of the General Officer Commanding the Division. The

commander of the divisional artillery is unable to inform him as to his target. The group commander fires according to his own ideas, on some trenches near point 194, $1\frac{1}{2}$ miles west of the objective of the attack which he should have supported.

On the same day, at about 9.45, the commander of the Blue Force orders the Colonial Brigade to counter-attack in the direction of Omécourt. The 1st group of the 5th divisional artillery is ordered to support this attack, but does not know by whom it is to be delivered. The commander of the divisional artillery informs it that the objective of the attack is St. Deniscourt.

Instructions, or Lack of Instructions, resulting in Artillery Firing on their own side.—On the 12th, at 3.30 p.m., the General Officer Commanding the 5th Division orders his divisional artillery to support the attack of the 9th brigade on the front La Chaussée-Brombos. The commander of the divisional artillery orders the 3rd group to fire on the targets north of the railway. In this zone is La Chaussée, which has been in the hands of the Blue Force since 3 p.m. If the 3rd group had carried out this order, it would have fired on its own troops. The initiative of the commander of the 3rd group, who establishes communication with the colonel of the 39th, in order to determine the point to be struck and the moment to strike, repairs the error committed by his commander as to the objective of the attack.

On the 14th, at 7 a.m., the brigadier of the 5th brigade informs the commander of the 3rd group, divisional artillery, that he is about to attack Hétomesnil, and requests him to support the attack, without telling him who is the commander with whom he is to place himself in tactical connection. The group commander certainly tells his 1st battery to place itself in tactical connection with the commander of the attack, but he is unable to tell them which battalion commander to communicate with. Moreover, he assigns a zone of observation to the captain, which incites him to fire upon anything he pleases. At 7.35 a.m. this captain is firing on friendly troops of the 6th brigade, retiring on Grez by the Hamel road.

On the same day, at 8.40 a.m., the commander of the 3rd group, corps artillery, to whom, as I have mentioned above, the brigadier of the Colonial Brigade had given no instructions as to the objective of the attack, is reduced to assigning zones of observation to his batteries. In these zones, two of his batteries (of which one has transformed itself on its own account from an infantry battery into a counter-battery) are firing upon visible flashes of artillery 180 thousandths to the left of Grez steeple. These artillery were the 3rd group, 5th divisional artillery, of their own force. (See Diagram VI.)

On the 16th, at noon, the brigadier of the 8th brigade orders the 2nd group, corps artillery, to fire upon infantry whom he observes in the neighbourhood of Le Ply, although no report has reached him which might induce him to suppose that this village is being attacked by the Red Force. These infantry were portions of the 6th brigade, marching on Morvillers. Consequently the 2nd group of the corps artillery fired for twenty-five minutes on its own troops. Yet the range did not exceed 1,650 yards. This mistake shows how little

reliance should be placed, generally speaking, on the concerted action of troops who are visible to each other but not in communication (*liaison à vue*).

I will cite a similar case in which, however, the mistake did not result in artillery firing upon their own troops. On the 16th, at 9.40 a.m., the 3rd group of the 5th divisional artillery was led into position by a staff officer, with orders to keep a certain zone under observation. (See Diagram VIII.) It was not placed at the disposal of any infantry commander, and it fired upon sheaves of corn which it mistook for the enemy's infantry in line of company columns.

These might just as well have been friendly troops. This is what happens when artillery endeavour to guess at the requirements of the infantry.

It will be seen that we are far from the ideal enunciated at the beginning of the present chapter, "To strike the objective of the attack at the right time and at the right place." Cases frequently occurred in which the artillery never fired at the objective of the attack, or fired at an objective which the infantry was not attacking, or even fired at its own troops. The example of the 12th, where this mistake was avoided, only illustrates the deficiencies of the commanders, since their errors were repaired by the direct communication established between the units executing their orders.

CO-OPERATION OF THE ARTILLERY ON THE DEFENSIVE.

Defence of Positions.

What should have been Done.—Para. 640 of the Regulations of 8/6/1903 lays down that, on the defensive, the probable positions of the artillery are to be prepared "without occupying them."

Para. 43, Chapter V, of the Regulations of 8/9/1910 lays down that the number of batteries to be deployed at the outset is limited by the uncertainty of the commanders as to the direction in which the enemy will attack.

On the other hand, paras. 45 and 56 provide for separate positions for the batteries detailed to co-operate in the distant defence, and for those to co-operate in the close defence.

The former are to be concealed positions, well defiladed. These batteries will fire upon either infantry or artillery, but preferably on artillery "without the support of which the attack has little chance of succeeding." (Para. 45.) These will have no effect upon the infantry "except to oblige it to extend, to advance by covered and concealed approaches, and to lose time." (Para. 45.)

The latter positions are to be selected so that the batteries can "sweep the approaches to the position." (Para. 45.) "They are to be concealed from the attackers by screens or traverses, and are to flank the dead angles." (Para. 46.) "They will work in intimate combination with the infantry." (Para. 46.)

According to these instructions the commander of the defence must divide his artillery into two portions.

The smaller portion will include the batteries, sections and single

guns intended for close defence, which will be placed under the orders of the commanders of infantry units in the front line.

The larger portion will be under the commander of the force for distant defence. Or he may hand them over to commanders of sections of the defence, if the position is divided into several sections.

Both portions of the artillery will not come into action till the last moment, but their positions will be reconnoitred beforehand.

The batteries for the close defence may be originally employed in the distant defence, and may be withdrawn from it at a suitable moment.

If the defence includes several sections, the commander of the force may, at the outset, detail a third portion of the artillery as his own reserve.

What was actually Done.—On none of the days of manœuvre considered above do we find the defence organized in accordance with the above principles.

On the 12th the brigadier of the 8th brigade, with one group of artillery, had to defend the front Broquiers-Feuquières-Hautbos; and, behind this, the principal position, La Chaussée—point 197. He immediately expended two-thirds of his artillery, instead of organizing two sections separated by the railway. He should have given one battery to the commander of the northern section, and have kept the two others in reserve at his own disposal, causing the group commanders to reconnoitre, in collaboration with the commanders of sections of the defence, positions to be occupied eventually for the distant and close defence.

At 9.30 a.m. the commander of the 4th divisional artillery himself places one section in an advanced flanking position (*en caponnière*) near Brombos, to fire on the outskirts of Feuquières. He posts the section two hours too soon. It is true that he afterwards gives it to the commander of the 2nd battalion, 45th regiment; but he does so over the heads of the brigadier of the 8th brigade and the colonel of the 45th regiment.

At 8.45 a.m., the brigadier of the 8th brigade sends one battery to the south of Broquiers, without allotting it to any infantry commander, to fire at haphazard in the direction where he hopes that the enemy will be good enough to present a target, under the pretext of "forcing the enemy to deploy and deceiving him as to the strength of the defence."

The above are the only two examples which occur on the 12th of the employment of artillery in the close defence. The Red artillery never co-operated in the defence at all, except in the distant defence. Moreover, as shown by Diagrams I and II, it was almost exclusively employed for firing on infantry.

On the 13th, at 6 a.m., the brigadier of the 8th brigade, entrusted with the defence the front Dameraucourt-Sommereux, supported by two groups, proceeds to organize three defensive sections, but keeps the whole of the artillery in his own hands, under the pretext of making it "co-operate as a whole" in the defence of his three defensive sections. He divides this artillery into infantry batteries and counter-batteries. He should have provided batteries available either as

infantry batteries or counter-batteries for the distant defence, and infantry batteries for the close defence.

In some cases the commanders allot a strong force of artillery to the defensive sections, but, for want of unity in the command, the tactical connection between the arms leaves much to be desired.

For instance, on the 17th, at 8 a.m., the General Officer Commanding the 6th Division orders the brigadier of the 11th brigade to hold out on the front Mesnil Valeran-Choqueuse-Frétoy. He promises him the support of the 12th brigade, but says nothing about artillery.

At the same period the commander of the 6th divisional artillery gives an order to his artillery in which no mention is made of the infantry. He designates their target as "enemy advancing by Marseille-le-Petit," whereas the attack is actually starting from Roy-Boissy and Lannoy.

Combats during the Retreat.

What should have been Done.—In a retreating action, the artillery has one more duty to perform than in the defence. It has to assist the infantry to disengage itself. The infantry must retire before it is too hardly pressed, and therefore the artillery must be the last to retire. The Regulations even foresee the case when it may have to "continue the combat till it becomes unable to retire." (Para. 47.) This duty of self-sacrifice can only be imposed on a small number of batteries, sections, or single guns employed in close defence.

The retirement of the guns should commence with the batteries not engaged, those at the disposal of the commander of the troops, of the commander of the line of defence, and of the commander of defensive sections, if these have been organized. Next follow the batteries engaged in the distant defence, and finally those engaged in the close defence.

The first batteries to retire are handed over to the officer commanding the position covering the retirement, who organizes first the distant defence and afterwards the close defence of his position. The batteries which retire later are used to reconstitute a reserve, if they are not required elsewhere.

What was actually Done.—On the 12th the artillery always retired before the infantry. The two arms conducted their combats independently.

The employment of artillery was much better understood on the 17th, in the retreating action fought by the 10th brigade, because the commander of the artillery was in tactical connection with the commander of the infantry. It was, thanks to the support of two batteries of the 3rd group posted north of Longavesnes, that the 36th regiment was able to extricate itself and to establish itself on the Beaulieu-Longavesnes position. The two batteries afterwards shifted to a position south of Riffin, near point 181. The commander of the 3rd group then divided the tasks between the three batteries, in accordance with the verbal instructions of the brigadier of the 10th brigade.

OBSERVATIONS APPLYING BOTH TO THE OFFENSIVE AND TO THE DEFENSIVE.

Organization of Command.

The Picardy manœuvres showed how little most of the commanders troubled themselves about the organization of command. And yet the rules governing this organization had been definitely laid down in Ministerial Circular of 10/3/1910.

"Troops of all arms employed, for the time being, in the execution of the same task, must, on the field of battle, obey the same commander. The judicious organization of these temporary commands, under officers who are fully instructed as to the general aspect of the situation, constitutes both the most efficient means of control by the chief commander, and the only means of ensuring tactical connection between the several arms. The attention of the Directing Staff of manœuvres is to be particularly called to this point."

I had limited myself to directing the troops whose inspection fell within my duties to conform to these instructions. I had also communicated to them the following extract from a note dated 30th April, 1910, drawn up in the 3rd Section of the General Staff, relating to the exercises on the map carried out in 1910:

"Ordering the formation of these tactical units, and organizing their command, is one of the most difficult, and most neglected, duties of the chief commander."

In spite of these instructions, numerous instances of negligence in this respect occurred at the Picardy manœuvres. I will give a few instances:

On the 12th, at 1.30 p.m., the General Officer Commanding the 5th Division orders the 3rd group of the 5th divisional artillery to support the advance of the 10th brigade on La Chaussée; but he neglects to place this group under the orders of the brigadier, who has already at his disposal the 1st group, the whole of which has (wrongly) been expended in counter-batteries. He orders the lieutenant-colonel of the 5th divisional artillery to give the 3rd group its instructions. It does not occur to this senior officer to take command of both groups, and to report himself for orders to the brigadier of the 10th brigade. The brigadier would have said to him "I am not attacking La Chaussée, as the General Officer Commanding the Division supposes, but point 213." The result of this bad organization of the command is that the 3rd group never fires at the objective of the attack, but fires on an objective which the infantry is not attacking.

On the same day, at about 2 p.m., the General Officer Commanding the 4th Division organizes two defensive sections. The battery of the south section is placed, in accordance with Ministerial Circular of 10/3/1910, under the orders of the lieutenant-colonel commanding the section. But the seven batteries of the north section remain under the command of the colonel commanding the 4th divisional artillery; they are not handed over to the brigadier of the 7th brigade, who commands in this section.

On the 13th, the 23rd Colonials, advancing outside the limits

assigned to them, are attacking Grez from the south-east, supported by six batteries of the 6th Division, while at the same moment the 74th are attacking from the south-west, supported by five batteries of the 5th Division. It does not occur to the commanders present to establish tactical connection and to organize the temporary command of all the artillery groups present under a single commander.

On the 14th, in the neighbourhood of Conteville, the 2nd Army Corps is conducting two separate actions.

One at Hétomesnil, with four battalions of the 5th brigade.

One at La Houssaye, with two battalions of the 5th brigade and two battalions of the Chasseurs-Zouaves.

Each of these actions ought to have been supported by a force of artillery under a single commander. Of the five groups present, only two are handed over to the brigadiers; the other three intervene alternately to assist one or the other of the two brigades, without any tactical connection with the infantry.

On the same day, with the Blue Force, the 12th brigade attacks Conteville. It is at first supported by one group of the divisional artillery; this is soon afterwards reinforced by a group of the corps artillery, which the general neglects to place under the same command. At a later period a second group of the corps artillery is sent, and it is decided to place this, with the first two groups, under the command of the lieutenant-colonel of the corps artillery. But the Army Corps commander himself engages a fresh group of the corps artillery, without placing it under the orders of any commander, either of infantry or of artillery. The 1st group of the 6th divisional artillery, which had been handed over to the 11th brigade, takes upon itself to fire on the objective of the 12th brigade. Thus the attack of this brigade is supported by five groups under three different commanders.

On the 16th, about noon, five groups are deployed on Morvillers plateau. All the infantry units operating in this neighbourhood are under the orders of the brigadier of the 10th brigade. Some of them are entrusted with the defence of the plateau, and the others are to execute the counter-attack ordered by the Army Corps commander. Instead of constituting two temporary tactical units corresponding to these two tasks, with the brigadier of the 10th brigade as superior commander, two groups of the divisional artillery are first given to the brigadier; the three other groups, namely one of the divisional artillery, and two of the corps artillery, remain under the orders of the general commanding the artillery, who himself posts them and allots their zones of observation. The tasks are so badly defined, and the functions of the different commanders are so badly regulated, that at 2 p.m. the brigadier of the 10th brigade believes that he has three groups at his disposal, one of the divisional artillery and two of the corps artillery, to support the attack of the 36th regiment. I have never been able to discover how the other group of the divisional artillery had passed from the command of the brigadier of the 10th brigade to that of the general commanding the artillery, nor how the two groups of the corps artillery changed the other way about.

On the 17th, at 6.45 a.m., the General Officer Commanding the 4th Division, whose brigades are attacking Loueuse and St. Deniscourt,

each supported by a group, engages his two remaining groups unnecessarily. And he leaves them under the command of the colonel of the 4th divisional artillery, so that the attacks of the 7th and 8th brigades are each supported by groups under different commanders.

With the Blue Force, the 1st group of the 5th divisional artillery, which is supporting the counter-attack of the Colonial Brigade, is not placed under the orders of its brigadier. The 1st and 3rd groups of the corps artillery are brought into action without tactical connection with any infantry unit.

On the 18th, at 6 a.m., owing to a defective subdivision of the fighting front of the 3rd Army Corps, Loueuse is simultaneously attacked, on the right by the 36th regiment, supported by the 3rd group of the 5th divisional artillery, and on the left by the 5th regiment, supported by the 3rd group of the 6th divisional artillery. It does not occur to the brigadier of the 10th brigade, who commands the tactical unit on the right, to lay hands upon the left unit and to organize a single tactical unit with the artillery under the orders of a single commander. The Army Corps commander aggravates the situation by sending up the 4th group of the corps artillery, which no one had asked him for; so that the attack on Loueuse is supported by three groups under three different commanders.

At 8.10 a.m., two groups of the 5th divisional artillery and one of the 6th divisional artillery were deployed on Morvillers plateau. They were supporting the attacks of their respective divisions. The Army Corps commander reinforces them with the first three groups of the corps artillery, which he does not place at the disposal of any infantry commander. These groups are merely ordered to take up positions of observation. It does not occur to anybody to designate an artillery commander to allot the eighteen batteries to the different attacks, including those in course of execution and those to be delivered subsequently. In consequence of this, the counter-attack of the Colonial Brigade is launched at 9 a.m., under the lamentable conditions which we have already noticed.

Functions of the Different Commanders.

Serious errors were frequently committed as regards the functions of the different commanders.

We see commanders of corps artillery, ordered to reinforce the artillery of a division, giving instructions to the groups sent up which are subject to the risk of being in contradiction to the instructions which they will receive from the General Officer Commanding the Division.

Commanders under whose orders artillery has been placed for discipline alone, consider themselves entitled to assume the tactical command of this artillery.

Of these errors, the most serious is that which is committed by certain commanders of divisional artillery, by interfering in the command of groups already in action. This leads them to desert their divisional general and to carry on a combat on their own account, independently of the infantry.

These senior officers thus neglect the most important of their duties, namely, "to keep themselves informed of the progress of the different

attacks, and to modify, if necessary, the initial distribution of the batteries." (Para. 4, Section 36, Chapter V, Regulations of 8/9/1910.) This information cannot reach them unless they remain with their brigadiers. It is there that they will receive the reports sent in by the groups which are engaged, according to which reports they will reinforce those groups which require reinforcement, and withdraw those batteries whose tasks are accomplished. These include :

Infantry batteries which become available as the result of the success of the different attacks.

Counter-batteries whose targets have disappeared, threatened by the rifles of the advancing infantry.

Batteries whose fire no longer serves any definite purpose, or is no longer indispensable to produce the desired effect.

The obligation incumbent on the commander of the artillery to remain with the commander of the troops, is not less imperious on the defensive than on the offensive. In either case the situation of the artillery will vary in the course of the combat.

We have seen, on the 12th, 13th, 14th, 16th, 17th and on the 18th, what happens when the commander of the artillery forgets his duties.

Those commanders of divisional artillery who suppose that once their groups are all engaged, they have no further duties with the divisional general, commit a grave error. On the contrary, it is from this moment that their duties become most difficult, for they have then to provide for the withdrawal of artillery.

Withdrawal of Artillery.

"In order that the numerous obligations incumbent upon artillery may be satisfied as they present themselves, far-sighted economy must be displayed in the employment of the batteries, so that the commander has always some batteries in hand." (Section 29, Chapter V, Regulations of 8/9/1910.)

An infantry unit is not "in hand" unless it is placed in reserve, at a certain distance from the firing line, where it is not exposed to the excitement of the combat. It is not quite the same with the artillery.

A battery in observation, in the concealed position, which has not yet opened fire, is just as much "in hand" as a battery at the place of assembly.

A battery which has been firing, but which is so well concealed that the enemy has not been able to locate it, is equally "in hand."

A battery whose flashes are visible, but whose men are concealed, is able to change position during the pauses in the artillery combat.

A battery whose men are visible is not "in hand" except for tasks which it can fulfil from the same position without shifting its trails.*

It is the duty of the artillery commander to keep himself informed as to the extent to which batteries which are engaged, but have completed their tasks, are available, and to foresee the moment when he

* "*Sans nouvel abatte*."—To bring the French gun into action in any desired direction, the trail has to be lifted shoulder high by two men and dropped at the point marked by the gun-commander. It can only be traversed three degrees each way without repeating this process.—Tr.

can withdraw them, (para. 29) either by leaving them in position at his disposal, or by assembling them in rear (para. 9).

I know only one case, in the Picardy manœuvres, in which the commanders concerned themselves about the withdrawal of artillery. On the 13th September, about 4 p.m., the 2nd and 3rd groups of the 5th divisional artillery, which were supporting the attack on Grez, were defiladed to such an extent that their flashes were invisible to the enemy's artillery. Thus Diagram III shows that the 3rd group (the only one in action at 2.30 p.m.) was not fired upon by the enemy's artillery. Consequently, the lieutenant-colonel of the 5th divisional artillery sent the following report to his colonel :

"The 2nd and 3rd groups are in position at point 203, and are supporting the attack on Grez by the 74th. Their position is completely concealed, so that I am able to withdraw a portion of this artillery if required. If Grez is taken I intend to request the brigadier of the 9th brigade to leave the 3rd group at your disposal. In this case the group will remain at point 203 till further orders."

This display of foresight is the more laudable that it is not habitual among artillery commanders. In the course of the manœuvres, as the records of firing and the diagrams show, we see group commanders opposing battery to battery. It did not occur to any captain to save a section and to report it. It did not occur to any artillery commander to encourage these savings and these reports ; to assure himself that the same target was not under the fire of several batteries ; to withdraw a unit whose fire no longer served any useful purpose ; in a word, to create the reserve of artillery in hand as prescribed by the above-quoted paragraph of the Regulations. In this, the artillery commanders neglected one of the most important of their duties.

Reinforcement of Artillery in the Firing Line.

This operation is the converse of withdrawing artillery. While the latter was neglected, the former was abused. In both cases, the greatest prodigality was exhibited.

Artillery in the firing line should not be reinforced unless it requires reinforcement ; that is, unless it has more targets than it can engage effectively.

When the necessity for reinforcement is clearly established, nothing is easier than to do so. The reinforcing batteries engage those targets which the batteries first in position were unable to deal with. When, on the contrary, reinforcements are sent up without necessity, for the pleasure, so to speak, of executing a time-honoured manœuvre, it is impossible to assign tasks to the new batteries without upsetting those of the old ones. This is liable to detract from the offensive power of the units already engaged, instead of strengthening them. This is what happened before Grez on the 13th, before Sommereux and Conteville on the 14th, and on Morvillers plateau on the 16th and 18th September.

Waste and Frittering Away.

One of the characteristics of the Picardy manœuvres is the tendency shown by the commanders to get rid of their artillery as soon as possible.

We have seen Army Corps commanders hand over the whole or part of their corps artillery to the divisions, before any want of artillery had been experienced; divisional commanders distribute their groups between the brigades at the outset; brigadiers divide their batteries between the colonels; and, sometimes, colonels divide their guns between battalions.

This frittering away has been much commented on by military writers who have concerned themselves with the Picardy manoeuvres. General Langlois criticizes it sharply in the "*Revue Militaire Generale*" of February, 1911. He attributes it to the tendency of the chief commanders of the present day to "split up their artillery between different partial and simultaneous attacks, instead of delivering cumulative attacks, each supported by a large force of artillery under a single commander, who would distribute their tasks judiciously."

General Langlois adds: "We have seen three groups of batteries on the same position, placed at the disposal of three commanders conducting three different simultaneous attacks, and distributing their fire so widely that it would have been too feeble to support any one of the infantry units engaged."

I never saw this happen at the 1910 manoeuvres; but this is just because the artillery was usually distributed at the outset between the brigades, so that the three divisional groups were rarely assembled on the same position. But the result was no better than this, since each brigade or each regiment engaged itself, with the portion of the artillery attached to it; and this gave rise to a large number of partial attacks in which the support of the guns proved insufficient or superfluous. Under these conditions it was difficult for the chief commander to organize an attack on the large scale, well supported by artillery, on a point chosen by himself, in order to bring about a decisive result.

For instance, on the 18th, at 8 a.m., three groups of artillery were before Loueuse. They belonged, one to the 5th Division, one to the 6th Division, and one to the corps artillery. They were not supporting three different attacks, but one attack; but they lacked, to allot their tasks, the single commander to whom General Langlois attaches so much importance. This lack of a single commander was the result of the preliminary frittering away of the artillery and of the difficulty experienced by the commander in getting it back again into his own hands.

Certain military writers have maintained that this scattering of artillery was intentional in the 2nd Army Corps, while the 3rd Army Corps favoured the massing of artillery. This is not the case. On both sides artillery was handed over to the brigades at the outset. It was in the 3rd Army Corps that on the 12th September a brigade split up its artillery between its two regiments, and that, on the 14th, this splitting up process was even extended down to batteries.

The fault in question is due to an erroneous interpretation of Ministerial Circular of 10th March, 1910. This circular lays down that "troops of all arms, employed for the moment in the same task, must, on the field of battle, obey the same commander." But the circular does not lay down that troops who have as yet no task are to be grouped under the same commander.

A *task* on the battlefield, such as justifies the formation of a temporary tactical unit, is the attack of a supporting point, or the defence of a position; it is not a march towards an enemy who has not yet been reconnoitred.

One of the umpires, in a report addressed to me concerning the manœuvres, expresses himself as follows :—

“As regards the attachment of artillery units to tactical units constituted *with a view to subsequent operations*, this was usually foreseen in good time. But it is to be noted that this method is subject to certain difficulties. Thus when a division marches to the attack in several columns, it has happened that only one column encountered the enemy, and found itself in difficulties before a superior force of artillery.”

This umpire, like the commanders, confused the cases in which the task is determined and those in which it is not.

When the tendency of the commanders to get rid of their artillery as soon as possible, as in the first three days of manœuvre, shows itself *after* the tasks have been allotted, then it leads to the accumulation of a surplus of artillery at certain points, while at others the want of artillery is felt.

Thus lavishness and frittering away, though apparently very different faults, are the effects of the same cause. Accordingly we find them both occurring in the same force.

It was the Blue Force which pushed the subdivision of artillery between small infantry units the furthest. And it was the Blue Force, especially, which reinforced groups which had no need of reinforcement. It was in the Blue Force that the largest masses of artillery were used. And, in this force, important attacks at other points were deprived of artillery support.

On the 16th, five groups were deployed to the west of Morvillers where two would have sufficed, while on the east only a single group remained to support the attack of the Colonial Brigade on Le Mesnil-Valeran and Mont Aubert.

On the same day, the 6th Division, in the neighbourhood of Séronville, deployed at the outset the three groups which had been at its disposal since the morning, namely, the 2nd group of the 6th divisional artillery, which did nothing; the 1st group, corps artillery, and the 3rd group, 6th divisional artillery, which only fired on their own troops. The 2nd group of the 6th divisional artillery, when obliged to change position, arrived too late to support the attack of the 12th brigade on Roy-Boissy.

On the 17th, the 1st, 3rd and 4th groups of the corps artillery of the 3rd Army Corps were deployed uselessly in the neighbourhood of Le Mesnil-Valeran, where they never fired a shot. The 2nd group, 6th divisional artillery, having been placed in observation of an area where the enemy never showed a single soldier, there was no group in hand to support the two counter-attacks which the Army Corps commander organized at Morvillers, that of the Colonial Brigade on Omécourt, and that of the 12th brigade on Thérines. In order to support these counter-attacks, it was necessary to withdraw the 1st group from the 5th Division, where it was very useful, being in

position south-west of point 194, facing Loueuse, in order to stop the enemy from issuing from this village. Finally, this group is ordered to support a counter-attack in the direction of St. Deniscourt, which is neither the objective of the 12th brigade nor that of the Colonial Brigade.

On the 18th, at 8.10 a.m., the commander of the Blue Force, having deployed the last three groups at his disposal on Morvillers plateau, without any tasks, has not a single group left at 9 a.m. to support the counter-attack of the Colonial Brigade on Omécourt. He desires to put in a group for the special support of this attack, although its objective is already being fired on by the groups of the 5th Division and the corps artillery, who have divided the horizon between them and have received orders to fire on any targets that may appear in their zone of observation. The infantry is attacking all along the line, and the artillery is firing on the whole front. There is no tactical connection between the two arms.

This is a maxim which it is impossible to repeat too often: "In order that the numerous obligations incumbent on artillery may be satisfied as they arise, the chief commander must always have batteries at his disposal. He must be both economical and far-sighted."

OBSERVATIONS RELATING TO THE EMPLOYMENT OF FIRE.

Allotment of the Zones of Observation of the Counter-Batteries.

One of the most important duties of the artillery commander, and one of those most neglected at the Picardy manoeuvres, is the allotment of the zones of observation of the counter-batteries between the artillery units taking part in the various offensive and defensive operations which constitute the combat.

The 18th is the only day on which this duty was properly performed. If the orders of the colonel of the 4th divisional artillery had been carried out; if the counter-batteries had not exceeded the limits of the zones allotted to them; if some of them had not transformed themselves into infantry batteries on their own account; the artillery of the Southern Force, in spite of its numerical superiority, would have found itself in a very awkward situation.

On the 17th, the lieutenant-colonel of the 5th divisional artillery carefully allotted the zones of the three groups of divisional artillery taking part in the defence of Morvillers. He did not forget to modify this allotment when the 3rd group was taken from him to support the counter-attack starting from Morvillers. But, instead of including only the counter-batteries in this re-allotment, he included the infantry batteries, which he failed to place in tactical connection with any infantry commander.

On the 11th and 13th the same commander certainly took care to allot the zones between the groups under his command. But when he brought up reinforcements he did not take into account, as he should have done, the tasks already allotted, but he upset the whole distribution of the tasks. On the 13th the result of this re-distribution was to break up the tactical connection previously organized between the two arms.

On the 18th, the lieutenant-colonel of the corps artillery of the 3rd Army Corps was sent up with three groups to Morvillers plateau. He had no orders except to establish them in positions of observation. He was careful to enquire of the groups of divisional artillery already in position what were their targets and their tasks, and he allotted his zones of observation accordingly. But the batteries, having received orders to open fire on any target which might appear in their zones, transformed themselves, as they pleased, from counter-batteries to infantry batteries, and *vice versa*. The watching of the enemy's artillery was therefore left to the chance inspiration of battery commanders.

On the 16th, in the neighbourhood of Choqueuse, the allotment of the zones was altogether defective. This was because everybody interfered with it. The lieutenant-colonel of the 6th divisional artillery had done his best to divide the horizon between the 1st group, corps artillery, and the 3rd group, 6th divisional artillery. But he was not aware that the zone of the 1st group was already watched by the 3rd group, 5th divisional artillery, which had been posted at 9 a.m. by a Staff officer of the 3rd Army Corps. The 2nd group, 6th divisional artillery, which had been marching with the centre flank guard, inserted itself between the two former groups, with a zone of observation overlapping theirs. The commander of the 6th divisional artillery, when he took command of the last-named group, was wrong to leave it the zone of observation which it had taken up; he should have redistributed the whole of the zones.

No allotment of zones was carried out in the 4th Division on the 12th or the 17th, nor in the 6th Division on the 17th.

The four groups established before Conteville on the 14th had no zones allotted to them. The commander of the 6th divisional artillery, upon whom this duty devolved, had gone off with his lieutenant-colonel to the 11th brigade. Thus, on Diagram VII, we note that the counter-batteries of three groups are concentrating their fire on the 4th group, corps artillery, of the 2nd Army Corps, while the four western groups of the Red Force never receive a single shot.

Finally, on the 16th, west of Morvillers, the disorder is at its height. (See Diagrams XII and XV.) Neither the general commanding the artillery, who had posted the batteries, nor the commander of the 3rd divisional artillery, whose duty it was, took the trouble to allot the zones of observation.

Changes of Target.

The records of firing which I have reproduced above, especially those of the 13th, show the difficulty which the gunners experience in sticking to the tactical tasks assigned to them. They like to pick out the objects which offer the most conspicuous targets, and to change targets frequently, at the risk of producing no effect on any one of them. The most typical example of this occurred on the 13th, when the three battery commanders of the 3rd group, 5th divisional artillery, simultaneously abandoned the definite targets which had

been assigned to them in order to concentrate their fire upon objectives of which the destruction was of no tactical importance.

No doubt it is laid down in the last paragraph of section 12, Regulations of 8th September, 1910, that in critical situations a heavy fire may be concentrated, without orders, upon an enemy's force *which seriously threatens our troops*. But this was by no means the case in the above instance. Had it been so, there were other measures which should have been adopted.

In the instance of the 13th, the group commander, who had two counter-batteries each engaged with an enemy's battery, might have directed the battery commanders each to "economize" one section, and to place it in observation of a given zone. Or, again, he might have allowed the two counter-batteries to continue firing on their respective targets, and have designated one of them to turn a section if necessary upon any hostile troops appearing in the zone in question. In any case the three captains should not have opened fire at the same time.

The "instinctive concentration" permitted by the paragraph quoted above is not a method to be encouraged.

It has been objected that, at manœuvres, it would be a very monotonous occupation for a captain to keep his guns pointed for hours at the target assigned to him, contenting himself with firing a "rafale" every now and then. My reply to this objection is that if the captain attentively observes his target, with a view to effecting an economy of fire; if he reports to his commanding officer the economies which he has thus been able to effect, and the ammunition which he has expended; if he practises replenishing of ammunition; if he establishes tactical connection, when acting as an infantry battery with the infantry and with the counter-batteries; if he carries out the tasks required of him by the infantry, all this will constitute an occupation far better calculated to employ the activities of the officers and men usefully, than changes of target of no tactical significance.

INSTRUCTION DERIVED FROM THE MANŒUVRES.

Progress accomplished.

Ministerial Circular of 6th June, 1898, on the employment of artillery at manœuvres, runs as follows :—

"Experience has shown that the rapidity with which events usually succeed each other at Army manœuvres prevents artillery officers from carrying out those preparations which should precede the arrival of the batteries on their positions. This has the serious disadvantage of creating false ideas in the minds of officers of other arms, regarding the normal conditions of the employment of artillery, and of depriving the commanders of groups and batteries of their rare opportunities of putting into practice, under service conditions, the regulations regarding the method of occupying the positions which they are ordered to take up.

"At manœuvres, the intervention of the artillery in the combat is marked only by the arrival of the guns and the sound of the first shot fired. There is nothing to show the point of the enemy's line,

whether troops or obstacles, upon which it is directed ; and, especially, there is nothing to show the moment when its fire becomes effective. Thus its officers have no means of bringing what they are doing to the attention of the other arms ; they are absorbed by the exclusive and very legitimate desire to inspire confidence in their comrades of the other arms, and, with this object in view, to display their smartness in manœuvring. Being desirous of always arriving in time to support the action of the infantry, which advances unchecked, they are led to execute their reconnaissance of the position of the target, too hastily, and to hurry the preparations necessary to ensure the efficiency of their fire.

"On active service this method of procedure would have most serious consequences, the more so that modern perfection in war material will in future render it possible to produce almost annihilating results against an enemy who engages himself carelessly."

It is sufficient to re-read this circular to form an idea of the progress which we have accomplished in the last few years.

At the manœuvres of 1910, infantry might have been seen marching to the attack at a pace not exceeding 1,000 yards per hour, just as they would do on service under fire. Infantry commanders themselves asked for the support of guns. Artillery had time to receive communications from the sister arm as to its requirements. The umpires fully appreciated the manner in which these requirements were expressed, and they stopped the attacks in which no tactical connection between the two arms had been established. The collection of the umpires' awards, however imperfect, shows that considerable progress has been realized.

Progress still to be accomplished.

Tactical connection between the two Arms. Artillery must be content with its position as a subordinate Arm.—I have been reproached with having written that the artillery is a subordinate arm ; as if this appellation were not the exact translation of the idea accepted by all of us that "it is the infantry which leads the fighting" ; as if the infantry did not often lead its own commanders, taking them in directions where they would prefer not to go ; as if the infantry commander, whose duty is simply to feed the combat by putting in his reserves, did not, to a great extent, subordinate his action to the reports which he receives from the firing line.

Those artillerymen whom the title of "subordinate arm" offends, are, like myself, of opinion that their task is limited to assisting the other arm. But they do not agree that the requirements of the infantry should be intimated to them by the infantry themselves. They aspire to discern these requirements without assistance. They expect to determine the objective of the attack from the movements of the other troops ; to divine the point to strike and the moment of striking. But whether they guess it or whether it is intimated to them, is not their decision subordinated to that of the infantry ?

Some officers suppose that the initiative of the artilleryman will be sufficiently guided by his knowledge of the tactical situation and of the drill-books of the other arms, and by the fighting spirit. Now the

manœuvres of Picardy showed that on every occasion when the commanders failed to assign a definite task to the artillery, the joint action of the two arms suffered. This is illustrated by the occurrences of the 17th in the neighbourhood of Choqueuse, where tactical connection between the higher commanders of the Blue Force broke down completely; where the commander of the 2nd group, 6th divisional artillery, shifted the 2nd battery because "our troops appear to be retreating in the direction of Polhay and Choqueuse." whereas the retreating troops did not belong to his own force. It is further illustrated by the events of the 16th, in the neighbourhood of Séronville, where two groups, posted by the commander of the artillery himself, both fired upon their own troops, and effected nothing else during the whole day. Finally, we may note what happened on the 14th before Conte-ville, where the greatest confusion prevailed, owing to the habit formed by the artillery commander of deserting his General.

The artillery commander must not suppose that the subordinate part which he is called upon to play with the commander of the troops is in any way beneath him. Neither must he endeavour to create a command for himself in the firing line, as happened on the 12th, the 14th and the 17th. He must not hurry the deployment of his artillery, as was done on the 16th near Choqueuse and on the 17th near Le Mesnil-Valeran.

There is no doubt that priority of occupation of positions will sometimes enable the batteries to support their infantry at the outset. This at least is what para. 9, Chapter V, of Regulations of 8/9/1910 hopes to attain. This intention is laudable. It shows that the artilleryman has no intention of fighting for his own hand, but it also betrays his pretensions to decide upon the position from which he will best be able to support the future operations of the infantry. The examples which I have cited show how little this expectation is justified, since on the 16th and 17th the groups thus placed remained inactive throughout the whole day.

The abuse of the zones of observation it due to the remains of the habit which formerly characterized the artillery of conducting a combat of their own independently of the infantry. I have given several examples of this on the 13th, especially before Grez, where the objective of the attack should have been clearly pointed out to the artillery. Further tendencies, due to the same cause, are the habit of the captains of exceeding the limits of the zone assigned to them, and of firing on any target they please, even when no latitude has been left to them as to the choice of targets within a certain zone.

The preference shown by certain artillery officers for the *liaison à vue*, is another mark of their pretension to dispense with instructions from the infantry. But this method of tactical connection did not prevent the artillery from mistaking the objective of the attack on two occasions on the 12th and on the 17th. Further, it resulted in the artillery firing five times on their own troops, on the 14th and on the 16th. On the 17th this method resulted in the artillery mistaking one body of troops for another, and, on the 16th, in their mistaking sheaves of corn for the enemy's infantry.

The Artillery must forget the Regulations of 1903.—It would seem

superfluous to say that the artillery must forget the Regulations of 8/6/1903, since these have been superseded by the Regulations of 8/9/1910. But it is to be feared that the old Regulations, though obsolete, may survive for some little time. They were framed immediately after the appearance of the present Q.F. gun, and bear the stamp of the desire to utilize the marvellous mobility of fire of the new weapon. They leave it to the artilleryman to choose his own targets within the zone of observation assigned to him.

Section 624, which enumerates, in eight paragraphs, the duties of the commander of the troops, say nothing about his pointing out to the artillery the objectives which they are to engage. The word objective is not even mentioned. The commander of the troops "gives the artillery commander full information as to the situation, and fixes the positions which he is to occupy at the outset."

Section 625, para. 4, states that the artillery commander "selects, on the positions thus fixed, the emplacements to be occupied." It is not stated that this selection is made with regard to the situation of the objective. It is not till para. 5 that, reversing the natural order of things, the Regulations direct the artillery commander "to give his subordinates the necessary instructions regarding the choice of targets."

Section 654 makes mention of "emplacements which appear to lend themselves to bringing batteries into position." As if, when firing from a concealed position, such emplacements could have any value in themselves independently of the situation of the target. It is not till a subsequent paragraph that the artillery commander is directed "to consider how the artillery is to *utilize* these emplacements to fulfil the task assigned to it."

In Section 619, entitled "choice of targets," the old Regulations recommend us "to choose by *preference* those which oppose themselves most directly and most effectively to the advance of the infantry." The use of the words "by preference" is surprising: for, on principle, these are the only targets which artillery should ever engage.

Finally, Section 680 states that the watch kept by the artillery over the battlefield will enable it "to come to the assistance, without delay, of the other arms, by rapidly directing an effective fire upon all the targets which may present themselves in its zone of action."

It is added that "this necessitates a knowledge, as complete as possible, of the tactical situation, and an attentive study of the ground, in order to foresee the directions in which the enemy *may possibly appear*, the features affording cover, and the supporting points which he may occupy."

With this object in view the old Regulations give to artillery officers "*full latitude* to take the steps necessitated by the different events which may occur in their zones, while not remaining indifferent to those which may take place in adjoining zones." Broadly speaking, the Regulations of 8/6/1903 require of the artillery commander that he is to organize the artillery combat in conformity with the views of the commander of the troops: that he is to select his objectives accordingly, and that he is to divide them roughly between his subordinates. Each of the latter is to have regard in his own limited sphere, to his own

knowledge of the situation. This "intellectual combination" was supposed to realize instantaneous action.

This method has now been condemned. For the vague instructions as to the general situation, the Regulations of 8/9/1910 substitute, on the offensive, definite instructions as to the objective of the attack. They throw upon the commander of the attack the duty of designating the point to be struck and the moment of striking. They subordinate the action of the artillery, within narrow limits, to that of the infantry.

But the habits acquired by an arm are not to be modified in a single day. For ten years, the artillery have had the right to choose their own targets acting in the best interests of the infantry. They have been accustomed to fire in every direction, encouraged thereto by the properties of their weapon. It must be impressed upon them that they must give up these habits, and forget the Regulations of 1903.

Choice of Targets. *Artillery should not strive after technical successes.* Not long since, it was taught at the School of Musketry, Chalons, that an infantry section commander, before opening fire, should ask himself the question, "Should I shoot?" The answer to this question would be affirmative or negative, according as the probable percentage of loss inflicted on the enemy exceeded a certain figure or otherwise. The probable percentage depended on the range, the enemy's formation, and the ground. The shape of the ground was a principal factor. Riflemen were recommended to select firing positions such that the trajectory, at the target, was parallel to the surface of the ground. The ideal was the attainment of a high percentage. Instead of regarding fire as the auxiliary of movement, movement seemed to be looked on as auxiliary of fire.

These doctrines are now considered obsolete.

General Kessler* writes:

"When two forces meet, the aim of each opponent is less to exterminate his adversary than to force him to retreat.

"... The action of small units, working forward unseen, will afford the means of surprising the enemy by taking him in reverse, and will conduce to better results than superiority of fire.

"... Progress in the art of war is to be looked for in the perfection of manoeuvre, and not in the increase of the butcher's bill."

It is incontestable that a body of troops driven out of its supporting point with relatively slight loss will suffer a greater loss of *moral* than a force which has held out, in spite of serious losses; and far greater than a victorious attacking force, though this may have suffered much heavier losses. Success is not to be measured in the ratio of the percentage of losses inflicted on the enemy, nor in the inverse ratio of the losses suffered by our own troops.

If the rifleman, captivated by the ballistic qualities of his weapon, has made the attainment of a high percentage the object of his tactics, it is not astonishing that the artilleryman, with his more powerful weapon, should have yielded to the same tendency.

* General Kessler, "La Guerre," Paris, 1909, pp. 58, 60 and 80.

On the 13th, the three batteries of the 2nd group, 5th divisional artillery, had clearly-defined tasks. They were supporting the attack upon Grez. One was firing on the enceinte of the village, while the two others engaged the enemy's artillery. They had not been allotted zones of observation, but definite targets. From the technical point of view, theirs was an ungrateful task, being merely to neutralize the defenders of Grez, and the detachments of the enemy's guns, concealed behind their gun-shields. To them it seemed more interesting, and promised to be more effective, to fire at the column of fours retiring towards the village. But when the three batteries simultaneously turned on this target, the enemy's infantry and artillery recovered their liberty of action, and were able to apply themselves unmolested to stopping the advance of our infantry. In this case the artillery strove for a technical success. This secondary task should have been carried out by one or two spare guns. The history of the manoeuvres of the 13th and 14th furnishes many similar examples.

Priority of occupation of positions is another sign of the striving after technical success. Para. 9, Chapter V, lays down that "this priority will enable us to profit by the opportunities offered by an imprudent enemy. It will enable the artillery to avoid the danger of occupying a concealed position in face of an enemy who is ready for action, and it will force the enemy to undertake this dangerous operation." These are the well-known advantages of the defensive. But the offensive has never aspired to inflict greater losses on the enemy than are suffered by the attacking troops. If we accept this form of combat, we must accept it with all its consequences.

Oblique fire is another method which strives after technical success. No doubt we shall profit by the percentage of hits which it offers, whenever the occasion presents itself. But to realize this method systematically, as recommended by para. 13, would mean the subordination of the tactical choice of the position to a technical advantage. Artillery must, above all things, place itself so as to support its infantry effectively, and the first condition of this is that tactical connection must be possible. It is better to kill ten men at the right time and at the right point of the objective which is to be carried, than to kill fifty men whose removal will not favour the progress of the attack.

Artillery must strive after tactical successes.—Section 27, Chapter V of Regulations of 8/9/1910 lays down that:

"Artillery is powerless to force the enemy to retreat by its destructive action. Its task is therefore limited to aiding by all the means at its disposal, the advance of the infantry, which alone is capable of attaining this result.

"To aid the infantry, the artillery must prevent the defenders of the supporting points from firing at it, as also any troops, whether infantry or artillery, which fire at the infantry in front or flank."

The capture of a supporting point will not only result in driving back a body of the enemy's infantry; it will often induce the retirement of his artillery, and will enable us to direct a reverse fire upon neighbouring supporting points which will facilitate the success of other attacks.

The consequences of a successful attack are incalculable. As Guibert

said, more than a century ago, "though the artillery be destroyed, nothing has been effected, if there still remain troops to conquer."*

Hence, of all the available positions from which the artillery can support an attack, the best should be reserved for the infantry battery. The counter-batteries will occupy the remainder.

The infantry battery will be protected by counter-batteries if this is necessary and possible. But the most certain means of assuring the liberty of action of the infantry battery is to render it impossible for the enemy to locate, by the use of lateral screens or deep defilade. Its position must be selected with the greatest care. There must be no risk of rendering it incapable of fulfilling its task by too hasty a choice. An error of this kind would not be easy to repair.

Finally, if an attack fails through the fault of the artillery, this will rarely be because an infantry battery has committed an error in ranging; it is more likely to be the result of a misunderstanding as to the objective of the attack, the point to be struck, or the moment of striking.

Therefore the progress to be effected should be less in the direction of the mechanism of firing, than in its employment in the combat.

The French artillery will cease to be the best in the world, in spite of the marvellous qualities of its *matériel*, in spite of the high spirit which animates its *personnel*, if it does not make the necessary effort to ensure that its projectiles reach the right point at the right moment.

Answers to some Questions.

Is it necessary to increase the proportion of Artillery with the Army Corps?—The only attacks which were not supported by artillery

* "Artillery duels should never be undertaken except when, the enemy's troops being under cover from fire, his batteries are exposed and are doing much harm to the troops which we are protecting. But if, on the contrary, the positions which we occupy are 'murderous' for the enemy, we must direct the whole fire of our artillery upon his troops, and upon the obstacles which cover them, in order to destroy them, and we should not seek to engage the enemy's artillery more than is necessary to protect the troops which we have to support.

"This maxim is often neglected by the artillery officers; whether it appears to them more brilliant to silence, before the eyes of the troops, the fire of the batteries opposed to them, or whether they do not sufficiently feel that the troops are the principal object, and that the artillery becomes useless if these are destroyed or thrown into disorder; instead of which, if the artillery be destroyed, nothing has been effected, if there still remain troops to conquer." (Guibert, *Essai général de tactique*, published by Maginel, 73 Quai des Augustins. 1803 edition, Part I, page 497.)

"If the infantry advances, pressing back before it the lines opposed to it, and occupying their positions successively, this is a victory accomplished. If it keeps its ground, holding fast and fighting without looking behind it, this is a still uncertain victory, which may be confirmed by a successful manœuvre or by a last effort. If, under stress of circumstances, it retires and retires again, unable to profit by the supporting points which the field of battle offers to recover itself and resume the offensive, this is the beginning of defeat.

"Thus the infantry situation determines, on the battlefield, both the progress towards the crisis, and the *moral* and confidence of the whole of the troops." (General Trochu, *L'Armée Française en 1867*, page 169.)

"It is in the infantry that the true secret of military preparation is to be looked for, and it is to the infantry that the popular voice has always attributed the merit of great triumphs." (Report of M. Messimy, deputy, on the Army Estimates of 1914.)

were those of the Colonial Brigade on Le Mesnil-Valeran and Mont Aubert on the 16th ; of the 12th brigade on Roy-Boissy, on the 16th ; of the Colonial Brigade, on Omécourt, and of the 12th brigade on Thérines, on the 17th ; and finally that of the Colonial Brigade on Omécourt on the 18th. But we have seen above that on those days numerous groups had been deployed at other points, uselessly or even detrimentally, since two of them fired on their own troops.

It cannot therefore be said that there was any lack of artillery. There was even artillery support for attacks which did not require it. Among these were the majority of the attacks on the 12th, that on Réderie on the 14th, that on Hétomesnil on the 14th, and that on Thieuloy on the 16th.

There were eleven batteries too many before Grez on the 13th, twelve too many before Conteville on the 14th, and on these days there was no lack of artillery at other points. It was as if the commanders had massed four hundred or five hundred guns before these villages as in the old days. For it must not be forgotten that the present gun is at least ten times superior to the old field gun.

Finally, on the 18th, the only day on which the fighting front of the 3rd Army Corps was kept within reasonable limits, great difficulty was experienced in deploying twenty-four batteries on Morvillers plateau. The groups were mixed together, and the Colonial Brigade, in order to advance to the attack, had to pass through the batteries, after having, perhaps, received the "rounds over" fired at the guns.

Therefore it is not necessary to increase the proportion of artillery with the Army Corps.

I will add that the batteries which took part in the Picardy manœuvres had only six wagons with their four guns, or only about one-third of their full war establishment. It was not therefore possible to take into account the room which the ammunition échelons would have taken up on the ground. Neither was it possible to form an idea of the delay in the deployment of the infantry which would have been entailed by the increased length of the columns. It would be imprudent to come to any decision before carrying out experiments bearing upon this question.

Should the proportion of Artillery with the Army Corps be reduced ?— The experience of the 18th appears to show that this question should be answered in the affirmative. But it would be rash to arrive at such a grave conclusion on the result of a single experiment.

If the Picardy manœuvres had showed that the withdrawal of artillery whose task is completed is a simple and easy matter, in which our commanders are well practised, I should be willing to believe that it would be possible to content ourselves with twenty-four batteries per Army Corps. But the question of the withdrawal of artillery has not yet been studied. At the manœuvres, the lieutenant-colonel of the 5th divisional artillery was the only officer who thought of it, on the 13th September. And on this occasion it was only a matter of an intention, which was never carried out. On the morning of the 17th, the Directing Staff evaded the problem of withdrawing artillery, by modifying, during the night, the dispositions of the previous evening. On the same day it was necessary, in order to

support the counter-attacks ordered by the Army Corps commander, to take back from the 5th Division a group which it could ill spare. And this necessitated a very laborious redistribution of the zones of observation by the lieutenant-colonel of the 5th divisional artillery.

The existence of a small surplus of artillery will be the last resource of inexperienced commanders. It will assure to them the possession of that force of artillery in hand, which is ordered to be constituted by Section 29, Chapter V, of Regulations of 8/9/1910.

Therefore, for the present at least, there is no ground for reducing the proportion of artillery with the Army Corps. This conclusion is not in contradiction to that stated in my report to the Minister for War, dated 24/9/1908, in which I requested that the number of batteries might not be increased beyond twenty-four per Army Corps. At that period the number of battalions in the Army Corps was twenty-four; it has now been increased to thirty. Therefore the proportion of artillery* has not been modified.

Should the Artillery be encouraged to strive for priority of occupation of positions?—The result of priority of occupation, as attained by the five groups deployed on the 16th to the west of Morvillers, an hour and a-half before the counter-attack of the 10th brigade was launched; by the four groups deployed on the same day in the neighbourhood of Choqueuse; by the four groups deployed on the 17th near Le Mesnil—Valeran; and, finally, by the three groups of the corps artillery deployed on the 18th on Morvillers plateau; was that, on these days, there was a lack of artillery at other points to support the attacks of the infantry.

This priority did not enable the batteries "to support their infantry more immediately," the prospect held out by Section 9, Chapter V, of the Regulations of 8/9/1910; since, on the 16th and on the 18th, the artillery had to cease fire to allow the infantry, which it was supporting, to advance. It would have been better if the artillery had waited, before taking up its positions, until it was aware of the dispositions made by the infantry.

Neither did it enable the force to "profit by the mistakes of an imprudent adversary," since on the 16th, near Choqueuse, and on the 17th, near Le Mesnil—Valeran, the groups found nothing in front of them but sheaves of corn, or friendly troops, on which they inconsiderately opened fire.

On the 12th, the premature deployment of the 3rd group, 5th divisional artillery, nearly resulted in its firing on its own troops.

On the same day, the Colonial Brigade was ordered to move on Briot and Brombos to envelop the enemy's left. Two battalions attacked by Thérines and six companies by St. Deniscourt. Two groups were placed at points 194 and 204 to support these attacks, before the objectives of the attack had been fixed, and before any reports as to the strength of the enemy had been received. Now, Thérines and St. Deniscourt were already in the hands of the advanced troops of the Colonial Brigade, so that these two groups came very near to firing on their own infantry.

* An Army Corps now has thirty batteries.—Tr.

When the infantry issued from these two villages to attack St. Maur, the groups had to shift their positions; but they arrived in their new positions an hour too late. Thus the premature deployment of these two groups delayed the support of the infantry attack.

On the 13th, the result of sending up the 3rd group of the 5th divisional artillery to reinforce the 2nd group, which did not require reinforcement, was to break up the tactical connection already established between the 2nd group and the 74th regiment.

On the 14th, the advanced guard of the 5th brigade was not to reach Hétomesnil before 8 a.m., yet at 7 a.m., before knowing whether this village was occupied by the enemy, the brigadier brought the 3rd group into action to support this attack. The result of his overhaste was that the 3rd group fired on its own troops.

On the 16th, the advanced guard of the 3rd Division was ordered to attack in the general direction of Hétomesnil, Gaudechart, and St. Maur. As soon as it had passed Conteville, the brigadier deployed a battery to the south of this village. Now, Hétomesnil was not occupied by the enemy.

The advanced guard then advanced by Owillers on Gaudechart and Prévillers. The group was deployed on a level with Owillers. Now, neither Gaudechart nor Prévillers was occupied. These successive deployments only served to fatigue horses and men to no purpose.

On the 17th, the 6th brigade was attacking Morvillers and point 204. The second group, which had been brought into action prematurely west of Le Ply, was obliged to shift 550 yards to the west in order to obtain a good position for the support of the attack.

On the same day, the 5th Division had been ordered to defend the front Morvillers, Loueuse and Boutavent. The whole of its artillery had been placed, at the outset, at point 204. It was afterwards found that, in order to co-operate in the defence of Loueuse, it was necessary to send a group to point 194. But from this new position, ordered to be taken up by the officer commanding the artillery himself, the group was unable to prevent the enemy from advancing by the ravine between Loueuse and Boutavent. When the group commander decided to send a battery to command this ravine, the enemy were already in possession of it. The loss of Loueuse was caused by the premature deployment of the artillery.

All the events noted at the Picardy manoeuvres concur in showing that the artillery positions should be selected with regard to the tasks to be fulfilled. It is only on ground such as Chalons camp or Mailly practice grounds that artillery positions can be selected beforehand.

The Regulations should confine themselves to pointing out the technical advantages gained by the priority of occupation of positions, when we are fortunate enough to be able to carry this out.

But they should not advise officers to go out of their way (*rechercher activement*) to secure priority of occupation, because this encourages the artillery to deploy without any definite task, independently of the information obtained from the infantry.

The combat of the advanced guard is the only operation in which the deployment of a portion of the artillery at the outset is advisable. It is to be regretted that no opportunities of studying the employment

of the artillery in this phase of the combat presented themselves at the Picardy manœuvres.

Should the Artillery be encouraged to strive systematically to obtain oblique fire?—On examining the diagrams, we find that the oblique fire of counter-batteries was often realized, although unintentionally, at the Picardy manœuvres. It would possibly have been realized less often if it had been deliberately attempted. The idea of systematically crossing fire is only applicable to ground with parallel ridges, such as occur at the camps of Chalons and Mailly, where the batteries are aligned opposite to those of the adversary, and fire in a direction practically at right angles to the front. No such conditions presented themselves on the manœuvre ground in Picardy. And yet, through force of habit, the batteries clung to the crests. It is true that they had no appliances for taking up concealed positions at a distance from the crest (*à grand défilement*).

As regards the fire of infantry batteries, I have already said, in the section on the choice of targets, that it is a primary necessity, in order to secure the efficient support of the attack, to establish tactical connection. Though the fire be effective, it is of little use unless opportune; that is, delivered at the right time and place. Between two positions favourable to tactical connection, we should choose by preference that which lends itself best to oblique fire; but we should not sacrifice the first condition to the second.

Therefore the Regulations should confine themselves to pointing out that oblique fire is more effective than frontal fire. But if they lay down that artillery commanders are to strive after oblique fire, this will encourage them to relegate tactical conditions to the second place. This would render it still more difficult to allot the zones of observation, and would aggravate the risk of firing on our own troops.

Conclusions.

Hitherto the employment of artillery has been but little studied at our autumn manœuvres. This was due, to a great extent, to the fact that our Army Corps had never more than eighteen batteries. And even this number was never attained except at Army manœuvres. In the ordinary manœuvres of Army Corps, divisions and brigades, it was rare to find an Army Corps turning out with more than twelve batteries. The artillery colonels were more often employed as umpires than as commanders of divisional artillery or corps artillery. They had few opportunities of practising the employment of artillery.

Section 1, Chapter V, of Regulations of 8/9/1910, lays down that "it is the duty of the chief commander to provide for the engagement of the artillery as of the other arms, and to give his orders at the proper time with the full consciousness of his responsibility." Did the chief commanders always do their duty in this respect?

In the course of the thirty-five years during which I have attended autumn manœuvres, I have often been struck by the deference paid to me by the infantry commanders to whom I have been attached. This deference has sometimes made me feel uncomfortable. These commanders gave me very few orders; they preferred to consult

me. They seemed to consider the artillery as a Sacred Ark, whose secrets were impenetrable. I have known some artillery officers inclined to keep up this mystery, which is a convenient means of permitting the gunner and the infantryman to take no notice of each other, while remaining very good friends. One result of this tendency is the habit which has been formed of assigning the task of the infantry and that of the artillery in separate orders.

I will add that at conferences I have never known the employment of the artillery considered, except superficially. We are familiar with the procedure at the ordinary conference. The Director of Manœuvres first calls upon the commanders of the two forces and of the principal infantry units to explain their procedure, and then requests the commander of the artillery to speak. He listens to the recital of the annihilating effects which the fire of the batteries would have produced. He duly recognizes their smart manœuvring, and the efficient support which they would have afforded to the infantry. He takes good care not to enquire about the orders issued by the artillery commander, in execution of those which he has received. He prefers to let these matters alone, and to terminate his criticism by a distribution of compliments.

Even if the Director were in possession of all the written orders, he would find it very difficult to make a critical analysis of them in the short time which intervenes between the sounding of the Assembly and the arrival of the officers.

At all manœuvres in which considerable forces of artillery take part, a study of its employment, similar to that which I have undertaken in the present work, should be carried out. Otherwise the artillery will continue indefinitely to repeat the same mistakes, and the questions which still arise as to its employment will never be answered.

This is why, in my letter of 8/1/1909, I requested the Minister for War to organize special artillery manœuvres.

To quote from this letter :

"At the School of Gunnery camps we sometimes turn out twelve batteries together on the practice ground. But in exercises of this nature we cannot study the employment of artillery since the infantry are absent. We are obliged to invent tactical situations corresponding to the gunnery problem which it is desired to solve, instead of attempting to deal with the problem imposed by the tactical situation resulting from the infantry combat. The manœuvres invariably sink to the level of a mere gunnery exercise."

I had already expressed the same idea in the Report which I addressed to the Minister on the subject of my inspection of 1908. In this I remarked :

"On the practice-ground, no infantry is present. The Director of the exercises is obliged to invent tactical situations such as will seem probable. This is the more difficult that most of our artillery ranges are indifferent fighting ground. There is neither cover which would enable the attack to gain ground, nor supporting points such as the defender would occupy, and such as we should have to attack. And it is necessary that we should practise supporting such attacks. Moreover, at the largest of our camps of instruction the execution of the most rational schemes is forbidden by practice-camp restrictions.

"If the tactical knowledge of some artillery officers is defective, it is because these officers have never practised any tactics except upon an artillery range, and because such tactics were necessarily unsound."

As a consequence of these observations, and of those which I submitted in my Reports of the 20th January and 12th August, 1909, the Minister for War decided, on the 5th January, 1910, that for the future the practical Field Artillery Course at Mailly practice camp was to be carried out on entirely different lines. This course was to become *a school of instruction for group commanders and commanders of divisional artillery*. A force of infantry was to be placed at its disposal, to enable the officers going through the course to study the problems relating to the tactical connection of artillery and infantry.

Unfortunately, in 1910 and 1911, this body of infantry was employed to execute purely infantry manœuvres, at which the officers of the courses attended as mere spectators.

It is true that the employment of divisional artillery can only be studied in the infantry division, and that a colonel of artillery is perhaps not well qualified to direct manœuvres on such a large scale. This is the opinion which the Director of the course himself expressed to me on the 28th April, 1911.

Moreover, the artillery should not be the only arm represented on the staff of a school intended for the instruction of group commanders and commanders of divisional artillery; that is, of commanders whose duty in the field will be to assign to the artillery a task subordinate to that of the infantry. In order that the necessity of this subordination, and the difficulty of carrying it out, may be clearly apparent to the officers of the course, the requirements of the infantry must be expressed by an officer other than the artillery commander, and this officer must be competent to express the requirements in question. In a word, the commandant of the school must be an infantry officer.

It is no less necessary for the infantryman to learn to express his requirements clearly, in view of the support which he expects from the artillery, than for the artilleryman to learn to frame the orders, as artillery commander, which are to give effect to the orders of the commander of the troops. And it is inconceivable that these two acts of command, which have so many points in common, should be taught in different schools. At present the infantry are not taught this branch of their duty at all.

The "practical field artillery course" of Mailly, already transformed by the Ministerial decision of 5/1/10 into a "school for group commanders and commanders of divisional artillery," should therefore become a *Course of Instruction in the Employment of Artillery for Senior Officers of All Arms*.

I submitted proposals to this effect to the Minister for War on the 31st of May, 1911.

My proposals were as follows:—

Instruction in Gunnery (*mécanisme de tir*) to be confined to the District Gunnery Courses.

The Director of the Course of Employment of Artillery to be a brigadier-general of infantry, who is to have at his disposal an infantry brigade or a regiment, according to the funds available, and one

regiment of artillery, to be changed from year to year. The place at which the course is held to be changed annually.

With one regiment of infantry it would be possible, at a pinch, to represent a brigade or a division of infantry, if the units were suitably sub-divided.

The batteries to be at full strength, so that it would be possible to turn out four groups, corresponding to the artillery of a division reinforced by one group of the corps artillery.

The part played by technical exercises to be reduced to a minimum. Series not to be carried through, but to be completed only to such an extent as to show that it is possible for the artillery to carry out their task from the positions selected. This would save several hundreds of thousands of francs' worth of ammunition, the cost of which would be better spent in the conveyance of one or two infantry regiments, and in the travelling expenses of senior officers of all arms.

This reform would not therefore entail any extra expenditure. It would put an end to a regrettable tendency to separatism. And it would exercise a considerable influence on the general instruction of the Army.

APPENDIX I.

NOTES ON UMPIRING, AS REGARDS THE ARTILLERY, AT THE AUTUMN MANŒUVRES.

Paris, 16/12/09.

(*Note.*—When I drew up these notes, I was only the Chief Umpire for Artillery. Another General Officer was Chief Umpire for Infantry. I did not think this division of our duties a good system, but I had to conform to it. It was not till August that I was appointed Chief Umpire of all arms.)

Fire Effect.—It is impossible, at autumn manœuvres, to decide between the two parties on the merits of the presumed effect of the fire of the artillery.

Infantry fires straight to the front, at short ranges, on the troops directly opposed to it. An infantry unit generally knows when it is under fire. If it does not know, the umpire can tell it so, and oblige it to delay its movement according to the violence of this fire.

The conditions are entirely different as regards the artillery. When the report of a gun is heard, it is impossible to say whence it comes, and still less where the shell is going to. Moreover, very little artillery firing is heard at manœuvres, since, for the sake of economy, the consumption of ammunition is only one-twentieth of what it would be in war.

The abolition of smoke, and the adoption of fire from the concealed position, have rendered the problem still more difficult, since the presence of the artillery is no longer revealed except by infrequent flashes.

Moreover, the concealed position and the shield enable the artillery, to a certain extent, to continue its fire while it is under fire itself. The enemy's fire no longer produces an absolute cessation of fire, but a

momentary interruption, or a reduction in the rate of fire the extent of which it is very difficult to estimate.

Finally, in the days of direct laying the batteries were directly opposed to each other, as is still the case with infantry units. There was then a *duel* between two batteries, and a battery, by firing an effective series, ensured its own safety. Matters are otherwise nowadays, since para. 631 of the Regulations of 8/6/03 has laid down that we are to "proceed by counter-attacks," that is, "to crush a unit of the enemy's line at the moment when it is engaged with another target." In other words, the unit upon which the battery is firing is not that which is attacking it. Therefore the umpire cannot pronounce that such a battery has got the upper hand of its adversary or otherwise, according to the manner in which it prepares and executes its fire. To arrive at such a decision, he would have to know which hostile battery is firing on it, and what is the procedure of this latter from a gunnery point of view. Such an investigation is absolutely impossible.

Numerical Superiority.—Since it is impossible to estimate the effect of fire, I have generally seen the umpires, at autumn manœuvres, content simply to count the number of batteries in line on each side at a given part of the battlefield, and, as a matter of course, award the superiority to the force which has most. This method of umpiring is altogether insufficient.

What does the number of batteries in line matter if they have nothing before them, or if the targets visible to them are not those which it is tactically important to destroy?

The duty of the artillery commander is to maintain a due proportion between the number of batteries which he engages and the importance of the task to be carried out. Now the shape of the ground and the conditions of the combat may be such that, of two opposite forces, one requires three batteries while the other requires nine. If the latter force has only six batteries, it is in a position of inferiority.

It would be a less serious error, but still an error, to engage twelve batteries. For the surplus of batteries might cause a deficiency at another point.

The system of basing the umpires' decision on the number of batteries in line has this serious disadvantage, that it encourages the commanders of the two forces to expend the whole of their artillery at once, to the great detriment of the proper employment of the arm. For fresh requirements may present themselves before the batteries which have been engaged have completed their tasks.

The Value of Positions.—In the days of direct laying, artillery endeavoured to find dominant positions, affording an extensive view in all directions. Positions were then judged on their own merits, independently of any task to be executed from them, and our umpires are still under the influence of the old habit of basing their awards on the intrinsic value of the positions.

Fire from the concealed position has enabled us to use many positions which were formerly not available. But a concealed position from which it is possible to engage a particular target is not always suitable for engaging another target. And, for the same target, a position may be characterized as good or bad, according to the degree

of cover and concealment which it affords from the enemy's artillery firing on it.

There is no longer such a thing as a position which is good in itself. The estimate of the value of a position must depend on the task to be fulfilled from it, and upon the dispositions, known or presumed, made by the enemy's artillery.

Clear Definition of the Task.—Generally speaking, the superiority, from the point of view of employment of the artillery, should be awarded not to the chief commander who has been able to bring up the greatest number of batteries to a given point, but to the commander who has succeeded in defining their tasks most clearly, in choosing their positions with regard to these tasks, and in proportioning their number to the importance of the task to be carried out.

Thus the clear definition of the task appears to be the basis of all umpires' decisions. In other words, the investigations carried out by the umpire should be directed rather to conception than to execution, rather to the work of the artillery commander than that of the group commander, and rather to the employment of the artillery than to the technical employment of its fire. This view is thoroughly in accordance with the accepted idea that autumn manoeuvres are rather a school for the higher commanders than for their subordinates.

Duties of the Umpires.—An umpire will be present with each tactical unit. He will thus be able to hear the orders given by the commander of the troops, and the manner in which the artillery commander translates these for execution. He will learn how many batteries the artillery commander engages and how many he keeps in hand. He will then send his assistant to the commander of each minor unit ordered to carry out a separate task. It will not as a rule be necessary for the assistant to wait until fire is opened, nor even until the batteries have come into action, in order to discover whether the commander of this unit has well understood the orders which he has received, whether he has adopted suitable measures, and whether he knows the infantry unit with which he is ordered to co-operate. But, before returning to his post, the assistant umpire should go to the commander of the corresponding infantry unit, not to enquire concerning the dispositions which this latter has made, which are the business of the infantry umpire, but to assure himself that this commander knows the artillery unit which is to support him, that he is in tactical connection with it, and that the tasks of the two arms, although they may be notified to the two commanders by different channels, are perfectly in accord.

If the assistant umpire considers it desirable to remain longer with the commander of the artillery unit in order to learn the details of the dispositions which he has made for the direction of his fire, he may send an orderly with his report to the umpire, instead of taking it himself.

The umpire will forward these reports to the senior artillery umpire in one of the following forms :—

"Such an artillery unit has been sent to such a place; task to neutralize enemy's artillery which has appeared in such a zone, and whose fire is checking the advance of such an infantry brigade."

"Such an artillery unit has been ordered to support the attack

on such a supporting-point, which such an infantry regiment has been ordered to take."

"Such an artillery unit has been ordered to co-operate in the defence of such a position, attacked by an enemy coming from such a direction."

"All correct."

These two words mean that the orders of the artillery commander have been well given and well understood, that the dispositions adopted for their execution were judicious, and that the two arms worked in tactical connection.

In the contrary event, the umpire may say :—

"The commander of such a force of artillery did not assign it a clearly defined task. He ordered it vaguely to support the action of the other arms, to break down the resistance of the enemy, to prepare the way for the infantry, &c. He did not inform it of the objective of the attack, nor of the number of the infantry regiment with which it was to co-operate. This regiment was not aware that it was being supported by artillery. The two arms conducted their combats independently."

Or, again, "the artillery commander, under the pretext of ensuring tactical connection between the two arms, distributed his groups at the outset between the different infantry units, before the tasks of these units had been defined. Such a group proved insufficient for the task allotted to the unit to which it was attached; such another proved superfluous. There was no effective tactical connection between the two arms. The commander abdicated his functions."

Or, again, "the artillery commander distributed his groups between the different sections of the battlefield, another form of the abdication of command. Such a group found no enemy in its section, such another found more targets than it could engage effectively."

"One group supported an attack which required no support; another group superposed its fire upon that of a second group; another group fired upon its own troops, &c."

GENERAL PERCIN.

APPENDIX II.

FROM GENERAL TRÉMEAU, VICE-PRESIDENT OF THE SUPERIOR COUNCIL OF WAR, TO GENERAL PERCIN, MEMBER OF THE SUPERIOR COUNCIL OF WAR, HÔTEL DES INVALIDES, PARIS.

Paris, 6th January, 1910.

I have the honour to acknowledge the receipt of your note relating to artillery umpiring at the autumn manœuvres, forwarded to me with your letter of the 16th December.

Although the effects of fire cannot be judged with exactitude at manœuvres, and although the clear definition of the tasks may be considered as the principal basis of the umpires' awards, yet it is necessary that the umpires should decide whether each offensive or defensive operation is effectively supported by artillery.

This consideration, relating to the execution of the task, must be kept in view in all awards.

As was done at the Bourbonnais manœuvres, the actual umpiring will be carried out in strips of ground at right angles to the front. On each day of manœuvres, the theatre of operations will be divided into zones, to each of which a party of umpires will be allotted.

In order that the umpires may perform their duties effectively, that is to say, in order that they may secure the proper conduct of manœuvres by obliging the troops to have regard to the effects of fire, and in order that they may give logical decisions as to the retirement of one or the other of the opposing forces, it is necessary that they shall be informed as to the presumed effect produced by the fire of the artillery, and that they should inform the troops engaged whether they are under artillery fire.

With this object in view, it is desirable that constant collaboration be established between the assistant umpires present with each artillery unit, and the umpires of the zone.

On certain occasions, and at the most important points of the battlefield, you may find it advisable to communicate to the Director of the Manœuvres your personal estimate of the effect produced by the artillery on the spot, on either side, and so afford him a basis for his decision.

The service of artillery umpires, of which the direction is entrusted to you, will thus serve a double purpose.

1. Inspection of the employment of artillery.

With this object, you will collect, as proposed in your note, such appreciations of a general nature as will be of value to the Directing Staff, and such as will no doubt enable conclusions to be subsequently formulated as to the employment of the artillery arm.

2. Participation in the service of umpiring to the extent indicated above.

The system which you describe, completed by the telegraphic and telephonic communications available on the manœuvre ground, seems adapted to ensure the realization of the first of these purposes. In order to realize the second, it would appear sufficient to work out a system which will ensure the collaboration of the assistant umpires at your disposal with the umpires of the zones.

GENERAL TRÉMEAU.

APPENDIX III.

FROM GENERAL PERCIN, MEMBER OF THE SUPERIOR COUNCIL OF WAR,
TO THE VICE-PRESIDENT OF THE SUPERIOR COUNCIL OF WAR,
PARIS.

Paris, 5th August, 1910.

SIR,

With your memo. of 5/7/10, you forwarded to me for my opinion a draft scheme entitled:

"Instructions Relating to the Organization and Interior Working of the Service of Umpires at the 1910 Manœuvres."

I have the honour to submit the following observations suggested to me by the study of this document.

Before submitting this report, I have awaited, as stated in my previous letter, the result of experiments which I have caused to be undertaken at Versailles and Vincennes to determine the best means of indicating to a body of infantry whether it is under artillery fire or not.

According to para. VII of the above scheme, my duties are as follows :—

1. To follow closely the operations of the artillery.
2. To inform the general officer directing the manoeuvres, in the course of important phases of the operations, as to the support afforded by the artillery to each of the forces opposed to each other.
3. To co-ordinate the action of the artillery umpires on both sides.
4. To render, at the conclusion of the manoeuvres, a report on the employment of artillery.

To enable me to carry out these different tasks, para. VII authorizes me to dispose, for the purpose of collecting information, of the artillery generals employed as umpires and of their assistants ; and it directs me to issue to them the technical instructions necessary for the performance of their duties as umpires.

I am of opinion that the word " technical " should be understood, not in the narrow sense that one would be inclined to attach to it, namely, as referring only to the mechanism of manoeuvre and of gunnery, but rather as referring to all that concerns the employment of the arm, styled in our Regulations " The employment of artillery " and " The employment of fire." The information which I require, as a basis for the remarks which I may have to submit to you in the course of the combat ; to co-ordinate the action of the umpires on both sides ; and to draw up the report required of me on the conclusion of manoeuvres, is, for the most part, of a tactical nature. And the instructions given by me to the officers who collect the information for me should be of the same nature. This being so, it would appear advisable to strike out the word " technical," which occurs twice in para. VII, and which is liable to misinterpretation.

The Minister for War, whom I had occasion to see some time ago, and with whom I had a conversation on the subject of my duties at the Army manoeuvres, agrees with me that I should be fully informed on tactical points, and has requested me to communicate to you my desires in this matter.

Not having been able to see you, I now embody my wishes in this matter in the form of a note entitled " Instructions by the Inspector-General of the Employment of Artillery."

This note might be printed separately, over my signature, in accordance with the intentions which you have yourself expressed to me in one of our former interviews. But I see no objection to its being incorporated in the draft scheme referred to above, as a continuation of para. VII or para. IX. In fact, I consider that it applies to all concerned, and that any umpire whatsoever should be able to pronounce on a question relating to the employment of artillery.

If the whole of the instructions required by the umpires to carry

out their duties be combined in a special memorandum, or in a special paragraph of the General Instructions, this will allow of several passages in para. V being struck out. I have marked these passages in red ink.

In conclusion, I have the honour to propose to you :

1. To correct the draft scheme, forwarded to me with your memo. of 5/6/10, as marked in red ink on copy enclosed.

2. To issue separately, or to embody in the General Instructions, the enclosed note entitled "Instructions by the Inspector-General of the Employment of Artillery."

GENERAL PERCIN.

APPENDIX IV.

INSTRUCTIONS BY THE INSPECTOR-GENERAL OF THE EMPLOYMENT OF ARTILLERY.

Paris, 5/7/10.

Organization of Command.—In accordance with Chapter III, Ministerial Instructions for the Service of Umpires, dated 12/6/10, the decisions of umpires are to be based on the principles embodied in the Regulations, and in the different official circulars containing remarks upon autumn manoeuvres.

The most important of these circulars, so far as the employment of artillery is concerned, are that of 26/3/09, on the Establishment of Tactical Connection, and that of 10/3/10, on the Organization of Command.

The artillery umpires will note whether, in conformity with the directions contained in these two circulars :

Each commander is always in his place.

Orders are given in the form of a task to be executed, defining the object to be attained, without interfering with the method of execution.

Troops of all arms employed in the same task (such as the attack upon a supporting-point, or the defence of a position) are brigaded together under the orders of the same commander.

Umpires will note the constitution of the temporary tactical units thus formed by the superior commander, the name and rank of the officer placed in command, and the task entrusted to them.

For this purpose, they will go themselves, or send an assistant officer, to the artillery commander of each of the principal permanent units (usually the commander of the divisional artillery). They will request this commander to furnish them with copies of the orders which he has received from the commander of the troops, and of those which he has given himself. They will then proceed to the subordinate artillery unit, and assure themselves that its commander has placed himself in tactical connection with the commander of the temporary tactical unit to which he belongs, and that he has arranged with him

the steps to be taken as regards the support which the artillery is to afford.

The copies of orders thus collected, showing the exact time and the place of issue, and the name and rank of the officer issuing them, will be forwarded, as the action proceeds, to the senior umpire supervising this part of the operations. A second copy will at the same time be forwarded to the Inspector-General of the Employment of Artillery.*

Effects of Fire. Means of Warning a Body of Troops that it is under Fire.—If, at autumn manœuvres, an umpire succeeds in ascertaining that a battery which is not sufficiently concealed to hide its flashes is not being fired upon by any hostile artillery unit, he should not therefore conclude that in war this battery would be at liberty to fire unopposed. For the number of rounds of blank ammunition available at manœuvres is too small to render it certain that the presence of the battery will be revealed. The only facts upon which a decision of this kind can be based are the degree of defilade of the battery and the amount of care taken by the enemy in allotting the observation of the horizon to his counter-batteries.

An infantry unit, on the contrary, will be no more visible in war than at autumn manœuvres. Its degree of visibility will therefore serve as a basis for the umpire's decision. And since it is the infantry which leads the combat, it is most important that the umpire should know whether an infantry unit is under fire or not.

With this object in view, at the beginning of each series, an infantry battery will fire four rounds at intervals of from two to three seconds, while a counter-battery will fire a single round.

The battery will burn a cylinder of compressed powder,† giving off smoke for about five minutes.

Besides this, an under-officer, with a white handkerchief round his arm, will gallop out to find an umpire, and will lead him to the vicinity of the target which the battery is firing on.

In addition to the above, the battery commander will post a man with a red flag close to his observing station, and two men with white flags about 100 yards to the front in line with the right and left flanks of the target. These three men will form a V with the apex close to the battery commander and the opening towards the target. During the fire, they will continue to wave their flags alternately from right to left and from left to right. According as the umpire sees the red flag between the white flags or outside of them, he will be within the V or otherwise, and will know whether troops near his position are under fire or not.‡

Effects of Fire upon Infantry.—A body of infantry, when informed that it is under fire, should :

If on the offensive, check its pace and assume formations suitable to the situation and to the ground.

* This appointment was created for the manœuvres, to give General Percin a *locus standi*. It was abolished when he was afterwards made Chief Umpire.—Tr.

† Each battery will receive thirty-three cylinders, which it will carry in the gun or wagon limbers.

‡ This procedure was suggested by Major Wilmet, of the 22nd Artillery Regiment.

If on the defensive, cease firing or at least reduce its rate of fire.

The umpire will require it to conform to these obligations.

The fire of infantry in position is very formidable at ranges between 660 and 1,350 yards.* The umpire will therefore not permit the attack to advance unless the defenders of the edge of the position are effectively neutralized.

The neutralization of the defenders would be apparent in war by the diminution of the losses suffered by the attacking troops. At manoeuvres, the umpire will inform the commander of the attacking troops if this is the case. This will enable all concerned to appreciate the working of tactical connection between the arms.

In a defensive situation, the umpire will assure himself that the infantry and artillery commanders have, as the result of a joint reconnaissance, posted their troops so that every portion of the ground over which the attack will approach is swept by artillery fire, rifle fire, or machine gun fire. It must be swept by at least one of these natures of fire, if not by all three.

In the attack, as in the close defence, flanking positions are to be sought after. These may be selected in advance, but not occupied till the last moment.

Effects of Fire on Artillery.—Thanks to the concealed position and to the shield, a battery under fire can continue to fire with more or less facility. But to range on a fresh target, or to execute a change of target such as to require a fresh *abatage* (lifting of the trails) and, especially, to change position, the battery must first cease firing and remain silent for some time. If not, it is liable to suffer serious losses. It is only a battery in the fully-concealed position that can be considered to enjoy absolute liberty of movement and of fire.

The umpire will award severe casualties to a battery which, being under fire or considered to be under fire, undertakes any operation which entails its showing itself. He will award still more severe casualties if it is exposed to oblique or enfilade fire. He will put it out of action altogether if, having come into action in the open, it endeavours to correct its mistake by changing position in order to get under cover.

But he may order it to change position as above, under para. 6, Chapter II, of Instructions of 12/6/10, but this will be as a penalty for the error committed. The delay caused to the battery by obliging it to execute the manoeuvre of taking up its position over again, will often have the same effect as putting it out of action altogether.

Specialization of Batteries.—The umpire will take note of the group commanders who detail their counter-batteries and infantry batteries before any task has been assigned to the group.

On the offensive, infantry batteries should not be detailed until the objective of the attack has been determined.

There is no reason for specializing batteries in the distant defence.

Numerical Superiority.—Umpires will not award the superiority, as a matter of course, to the force which has the greatest number of batteries in line. They will have regard to the number of infantry batteries, and to the degree of liberty of fire which they enjoy. A group

* Instructions of 12/6/10, Chapter III.

of three batteries, of which two are employed as counter-batteries to disengage* the third, which is an infantry battery, is not as effective as a single infantry battery protected by a lateral screen or in a fully-concealed position.

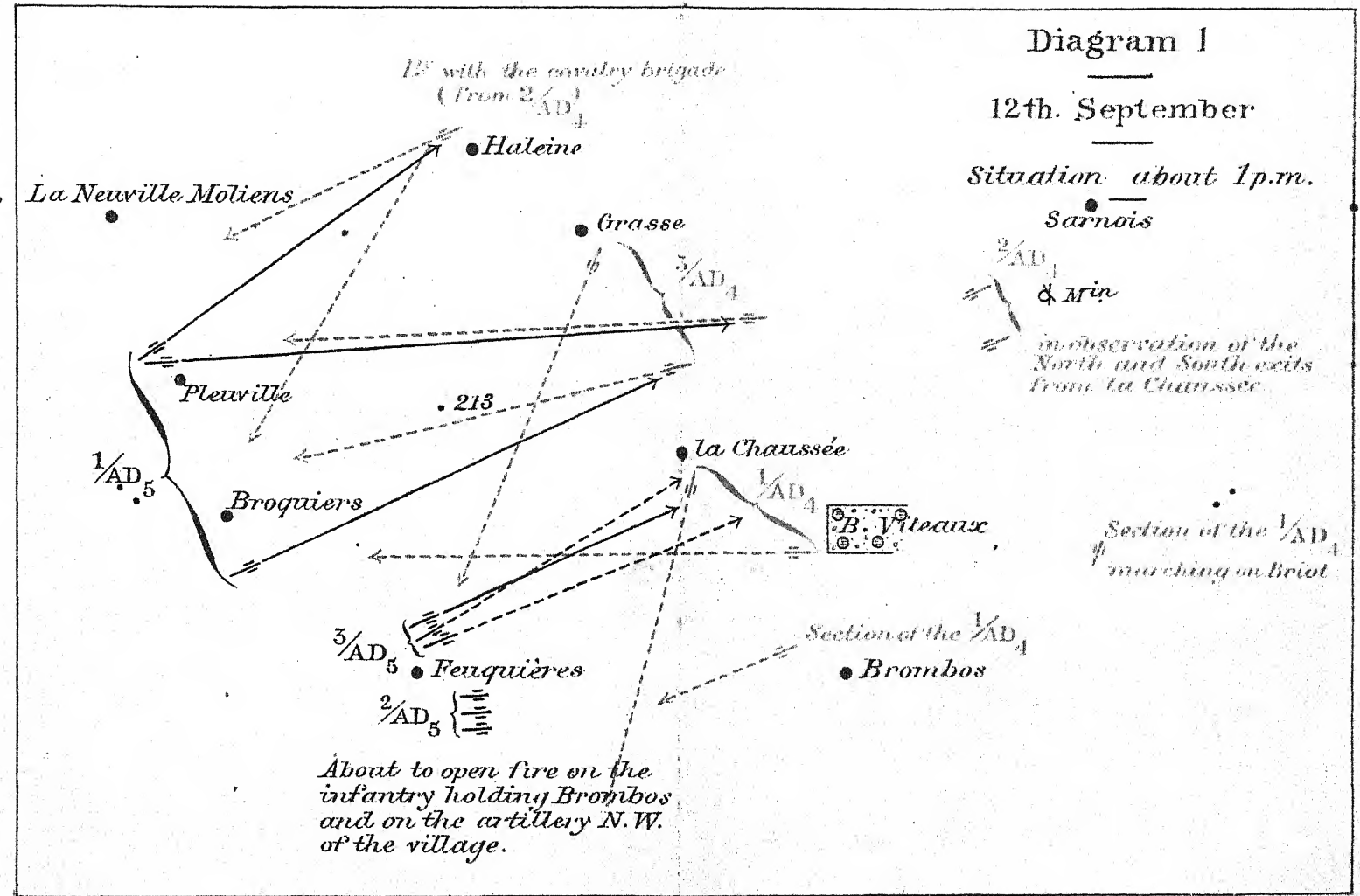
The efficiency of this single battery is still further augmented if, in addition to the advantage of the lateral screen, it is able to bring oblique fire or enfilade fire to bear, or if it has the advantage of the moral effect of surprise. On the offensive, as on the defensive, a single gun, brought up to the required point by concealed approaches, will often produce more effect than an imposing mass of batteries delivering frontal fire, of which the majority will be employed in disengaging the small number of infantry batteries, and imperfectly at that.

Duties Common to all Umpires.—The obligation incumbent on artillery umpires to direct their attention specially to matters concerning the employment of their arm, does not exempt them from the duty of intervening, should occasion arise, to settle questions concerning the operations of the other arms.

The artillery umpire cannot fulfil his special task unless he is fully informed as regards the infantry situation.

GENERAL PERCIN.

* By engaging the enemy's artillery, firing on it, and so diverting their fire.
—Tr.



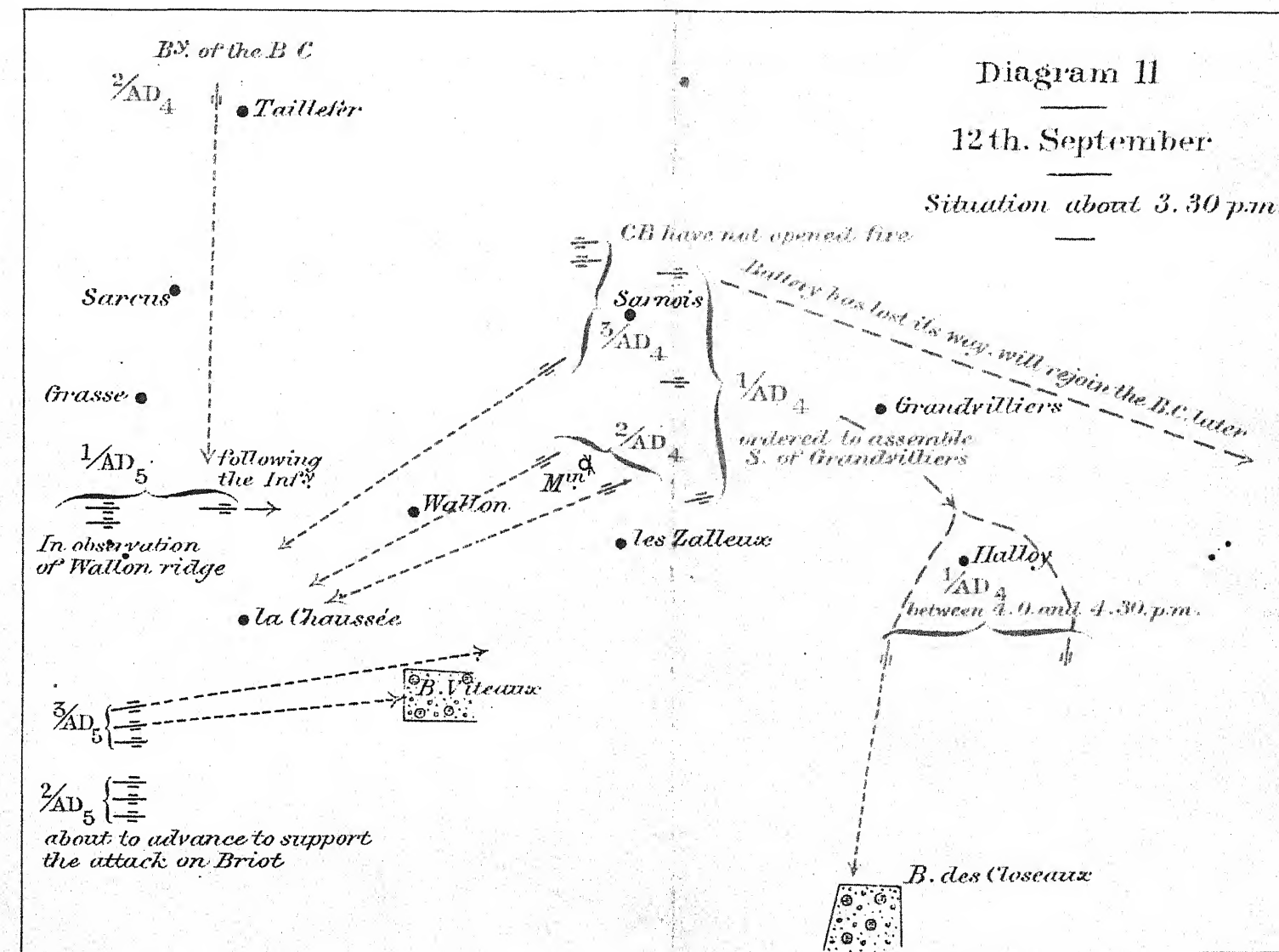
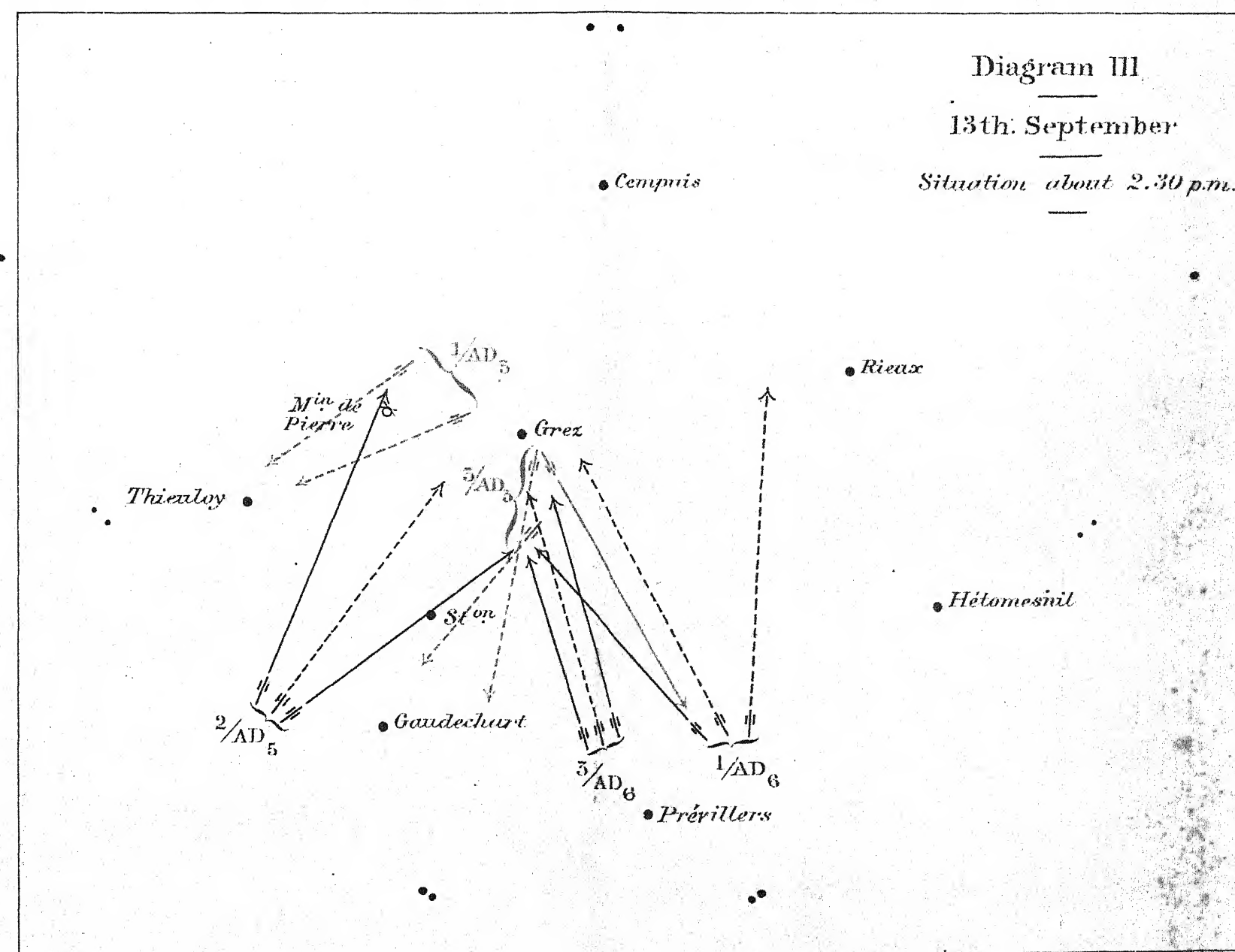
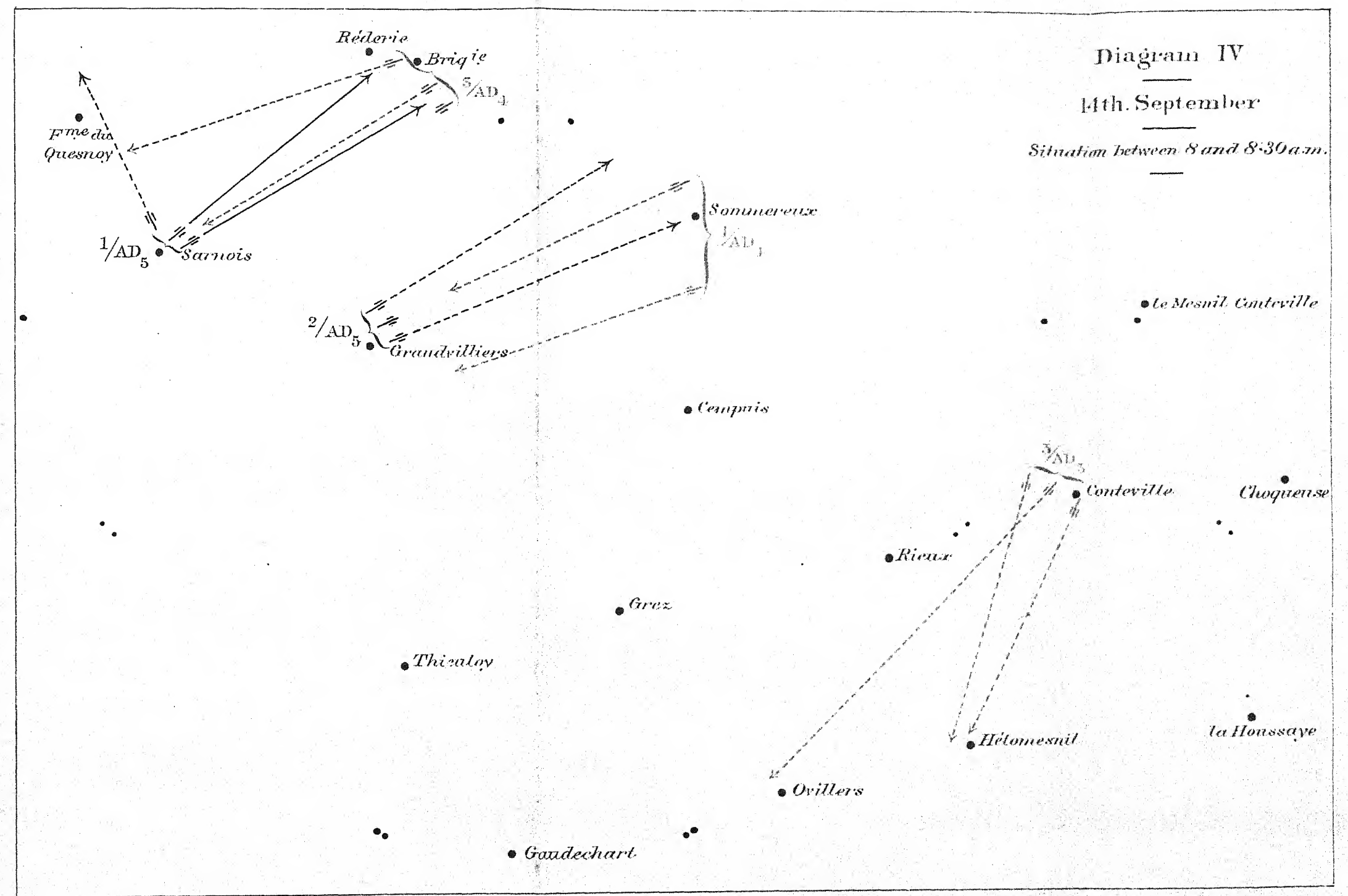


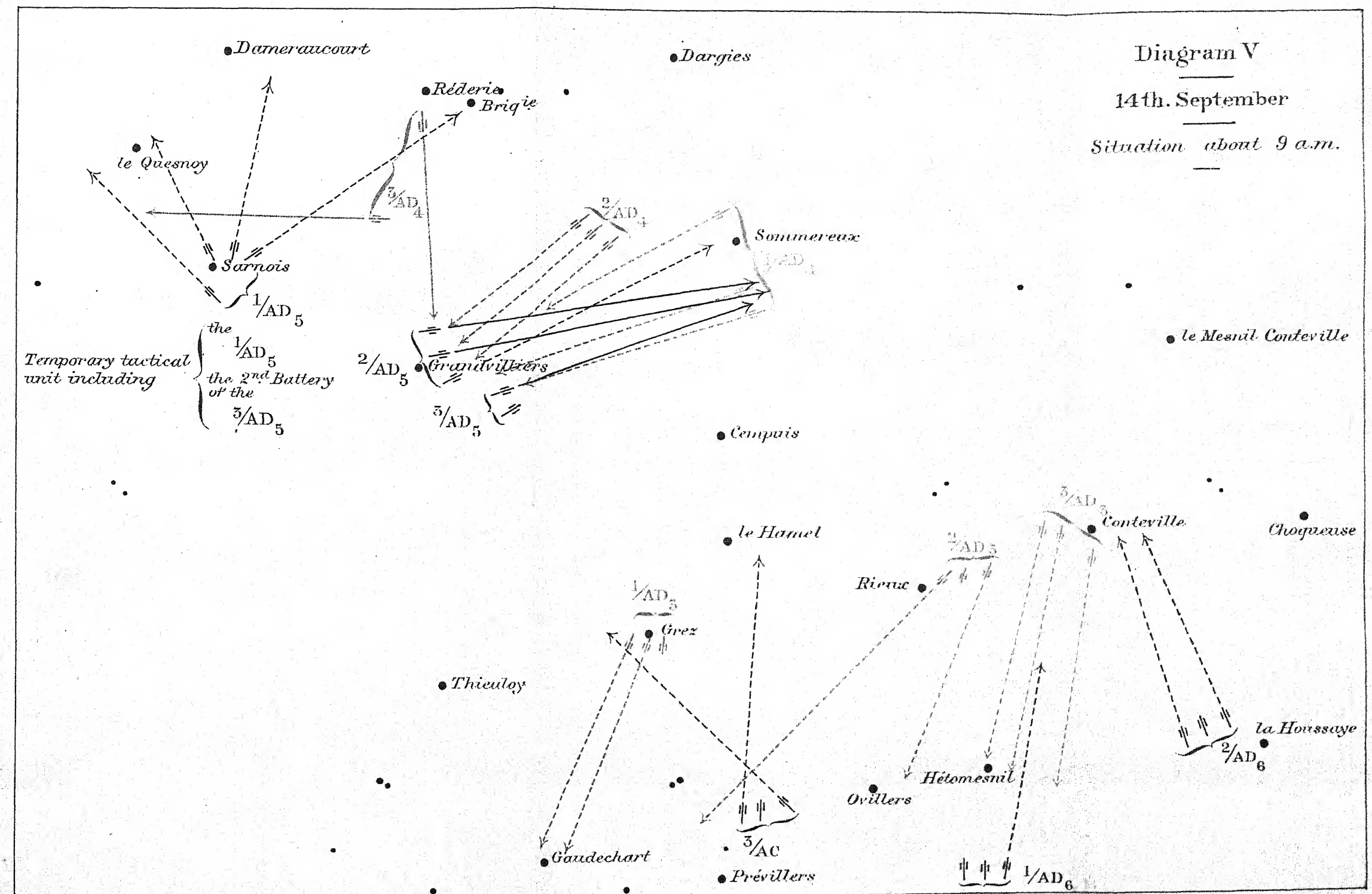
Diagram III

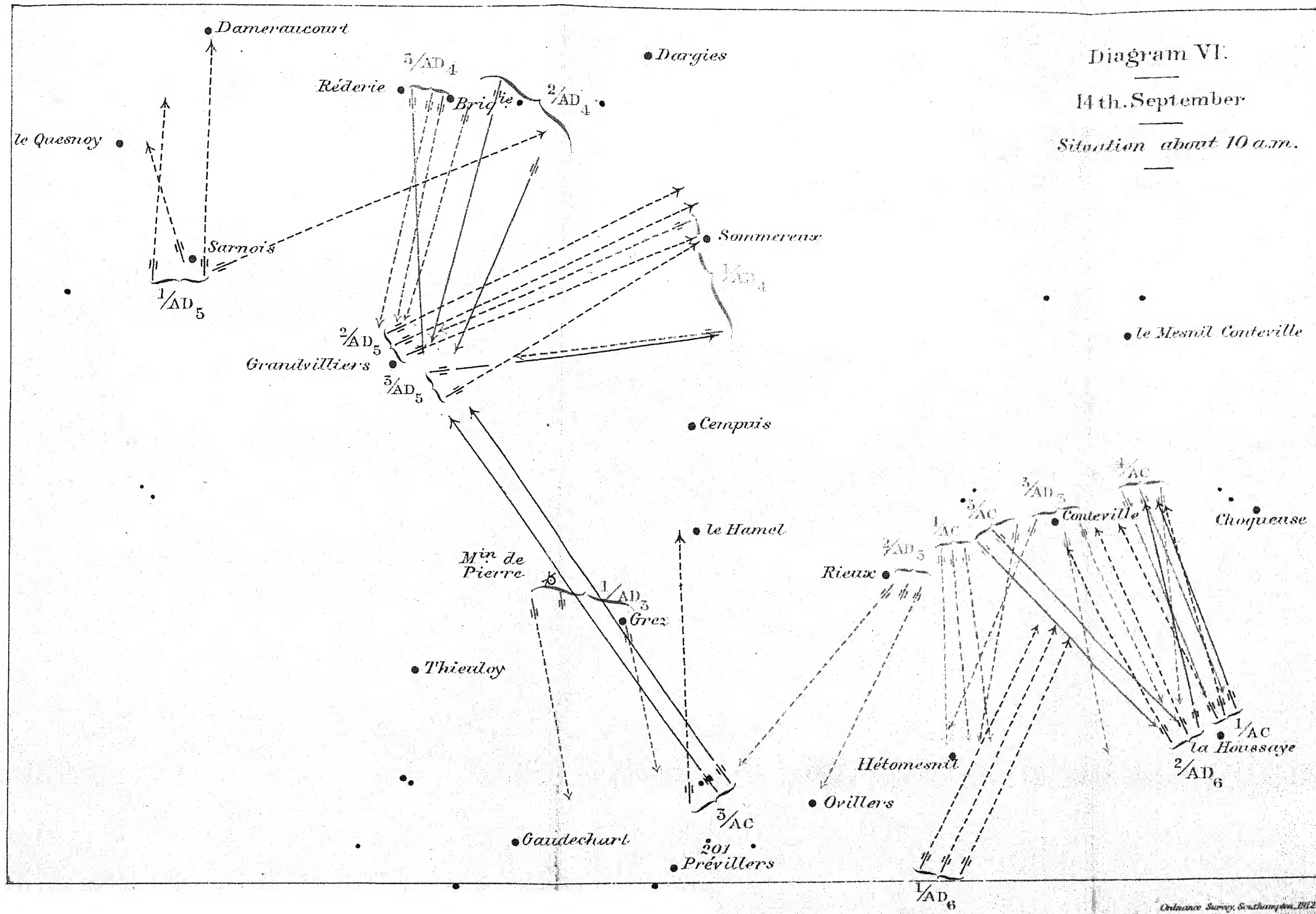
13th. September

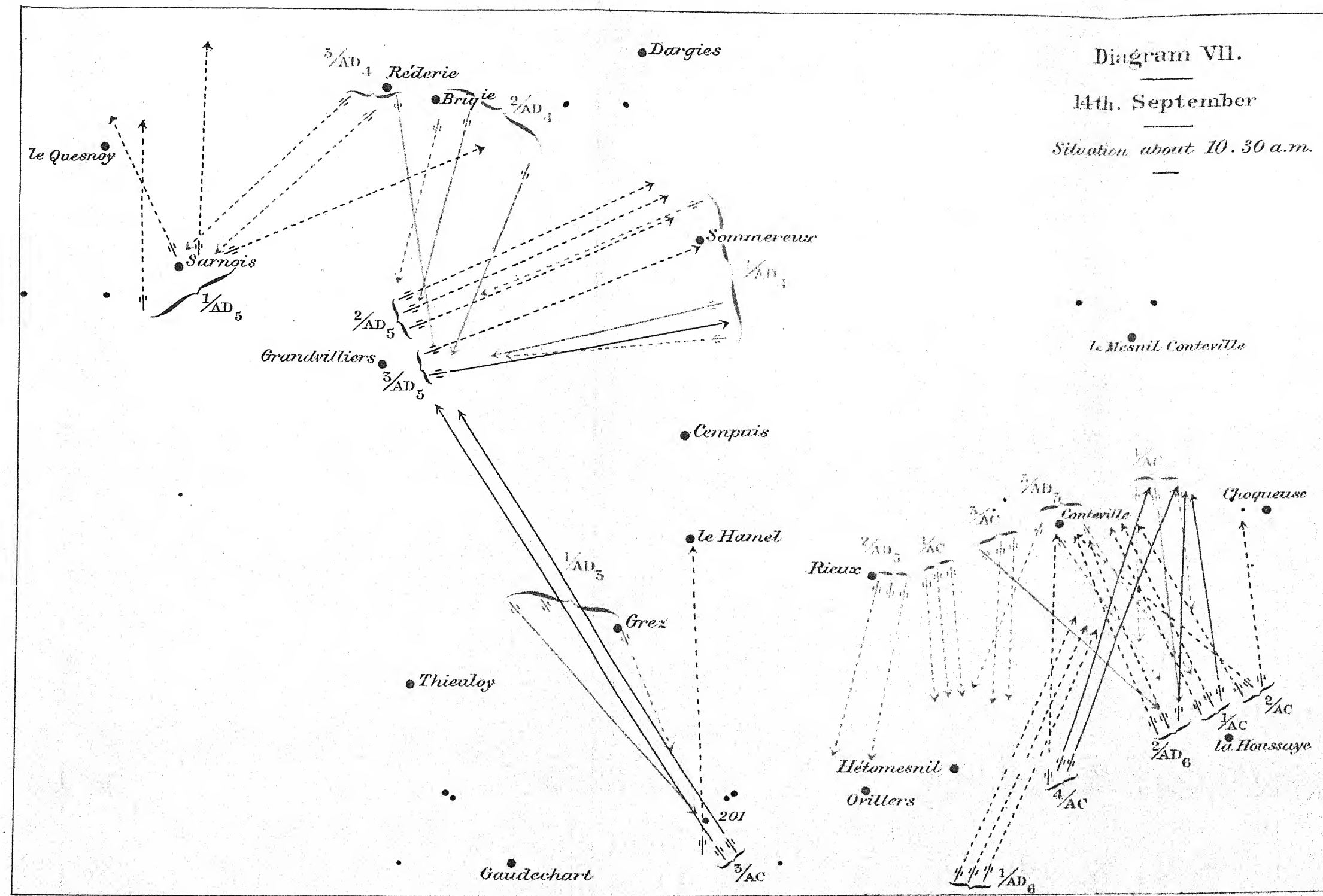
Situation about 2.30 p.m.











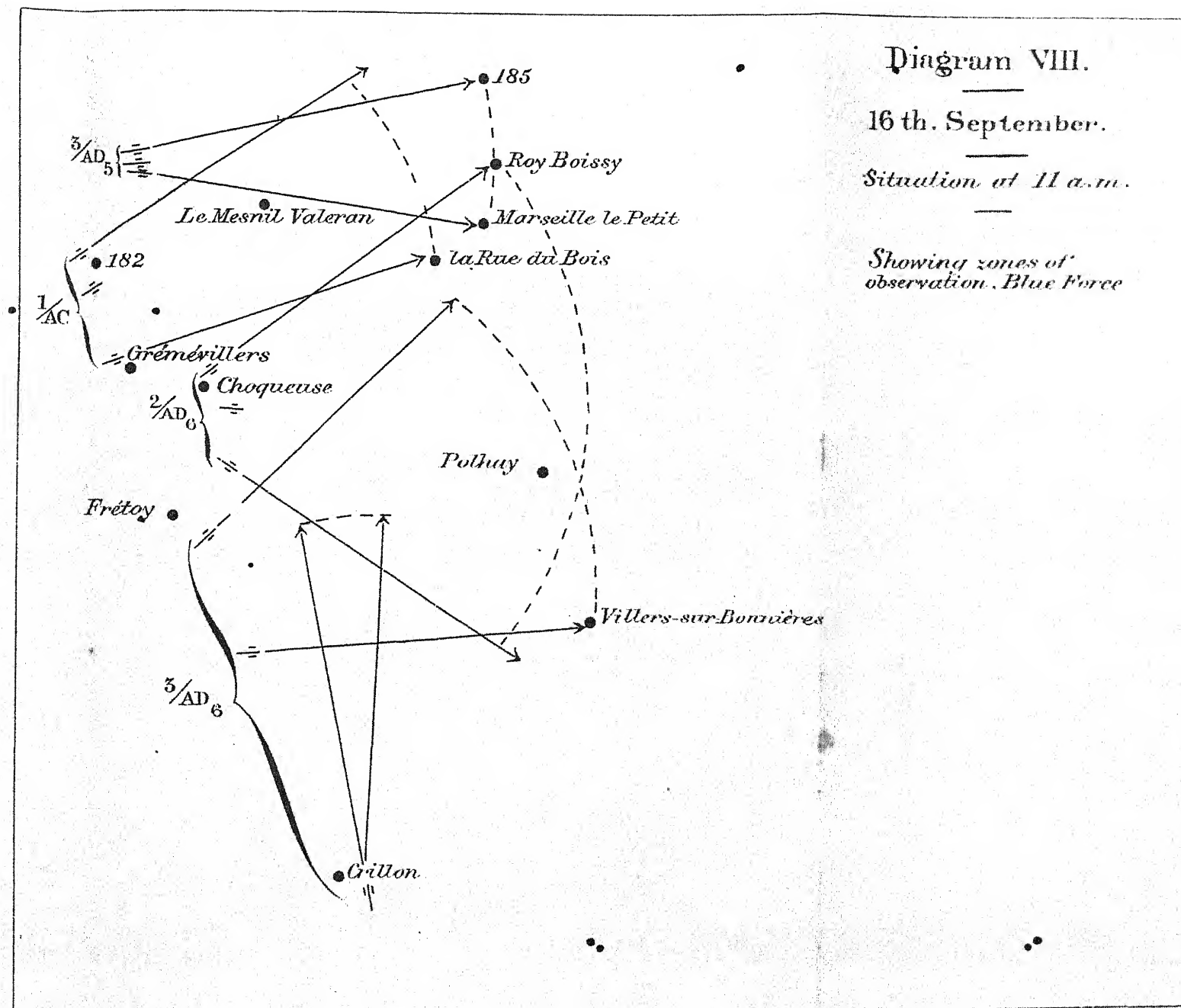


Diagram VIII.
 16 th. September.
 Situation at 11 a.m.
 Showing zones of
 observation. Blue Force

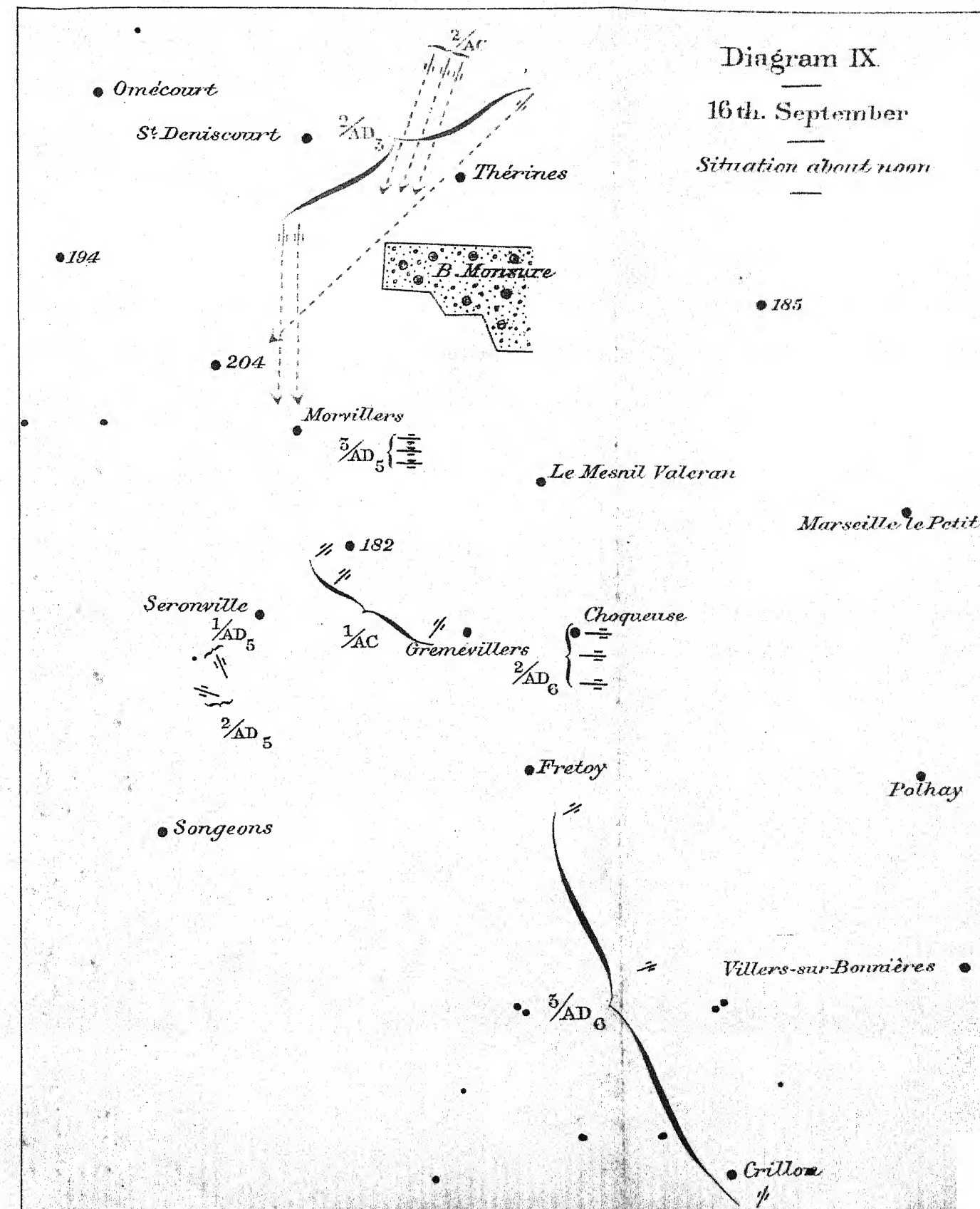


Diagram XI.

16th. September

Situation about 1.30 p.m.

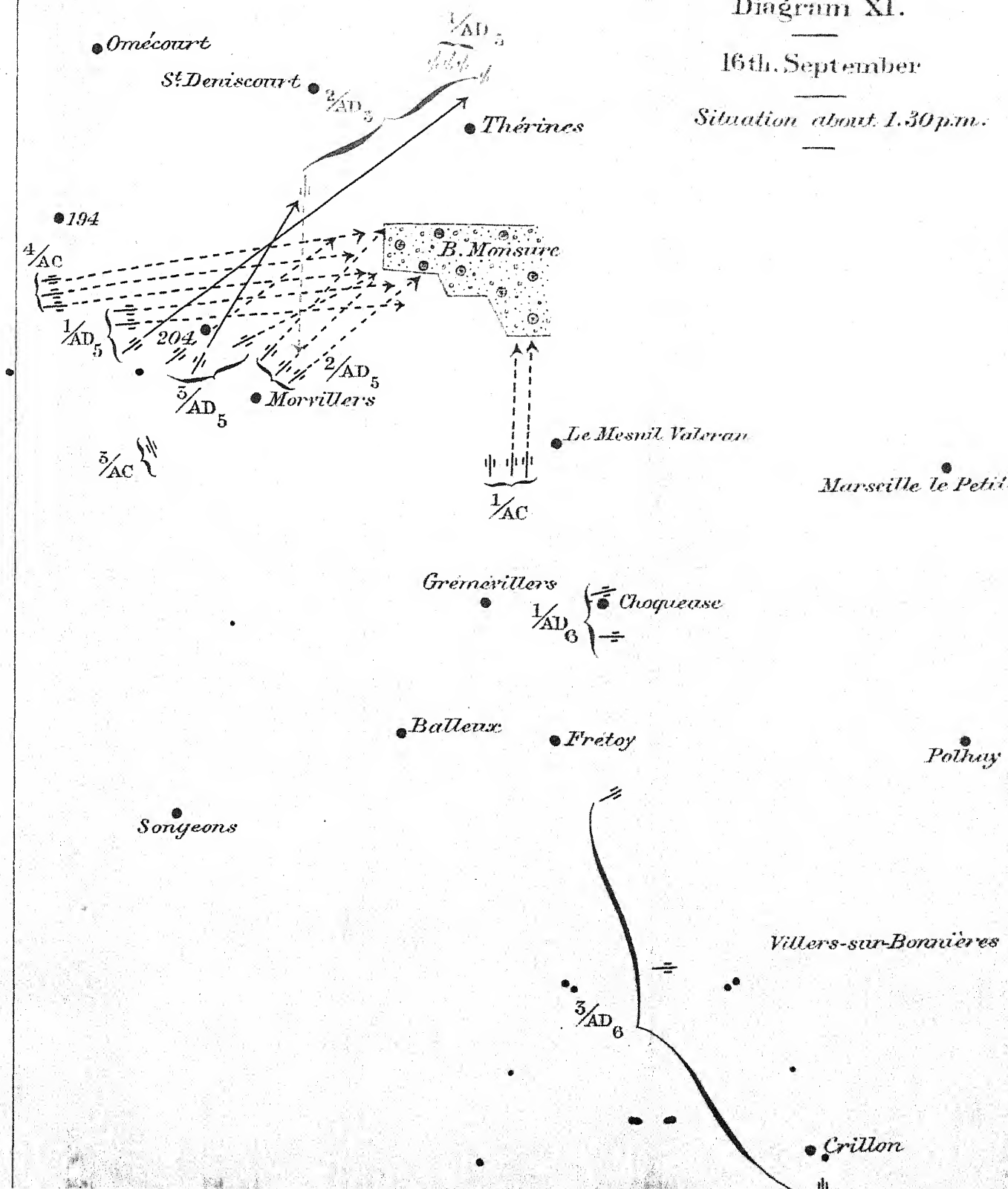
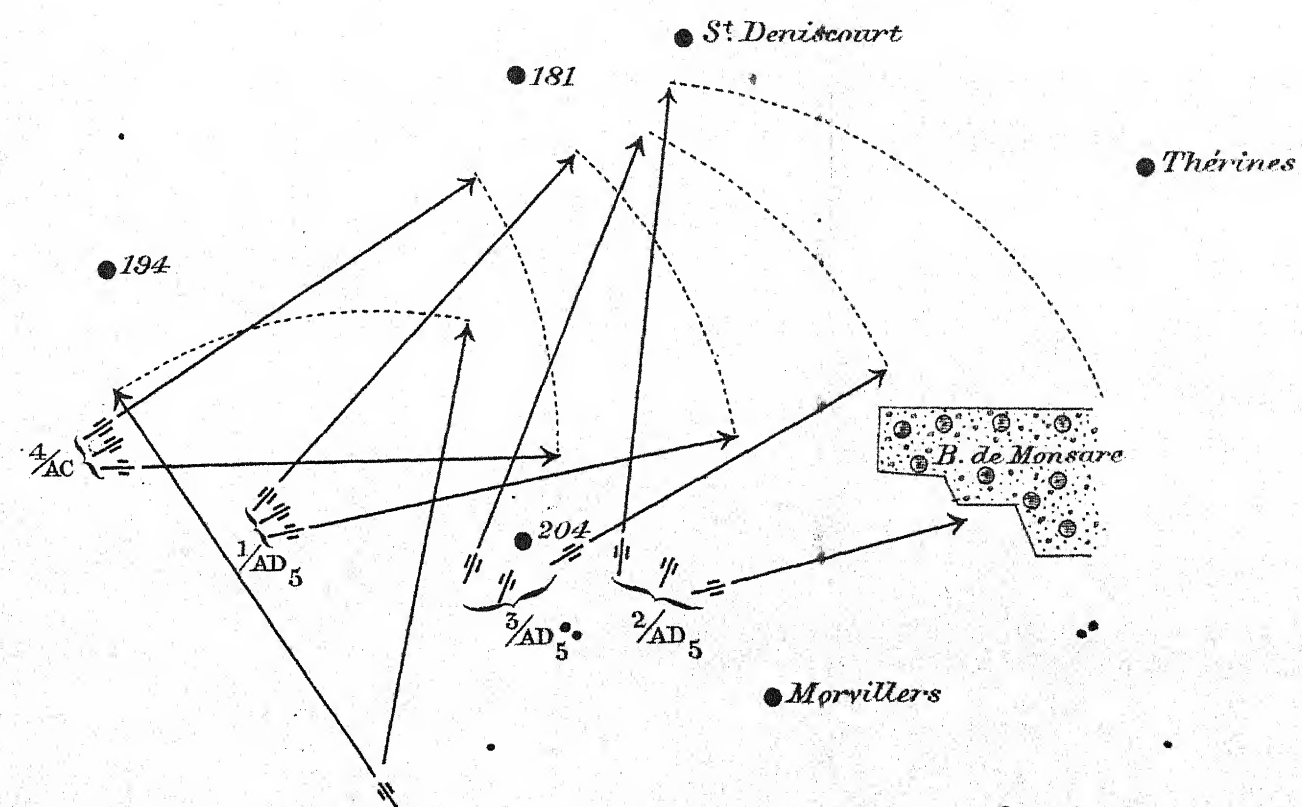


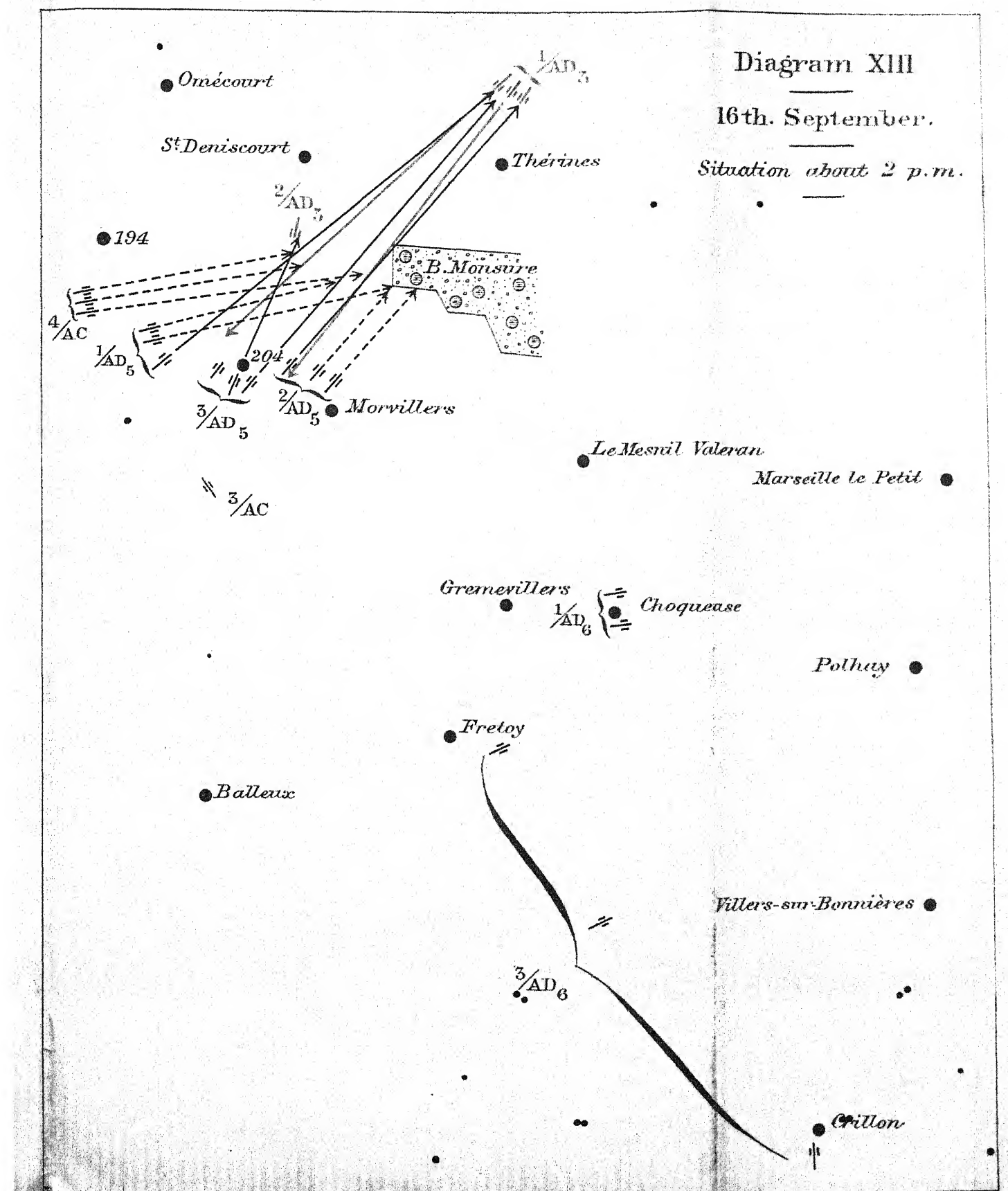
Diagram XII

16th. September.

Situation about 1.30 p.m.

Showing zones of observation.
Blue Force.





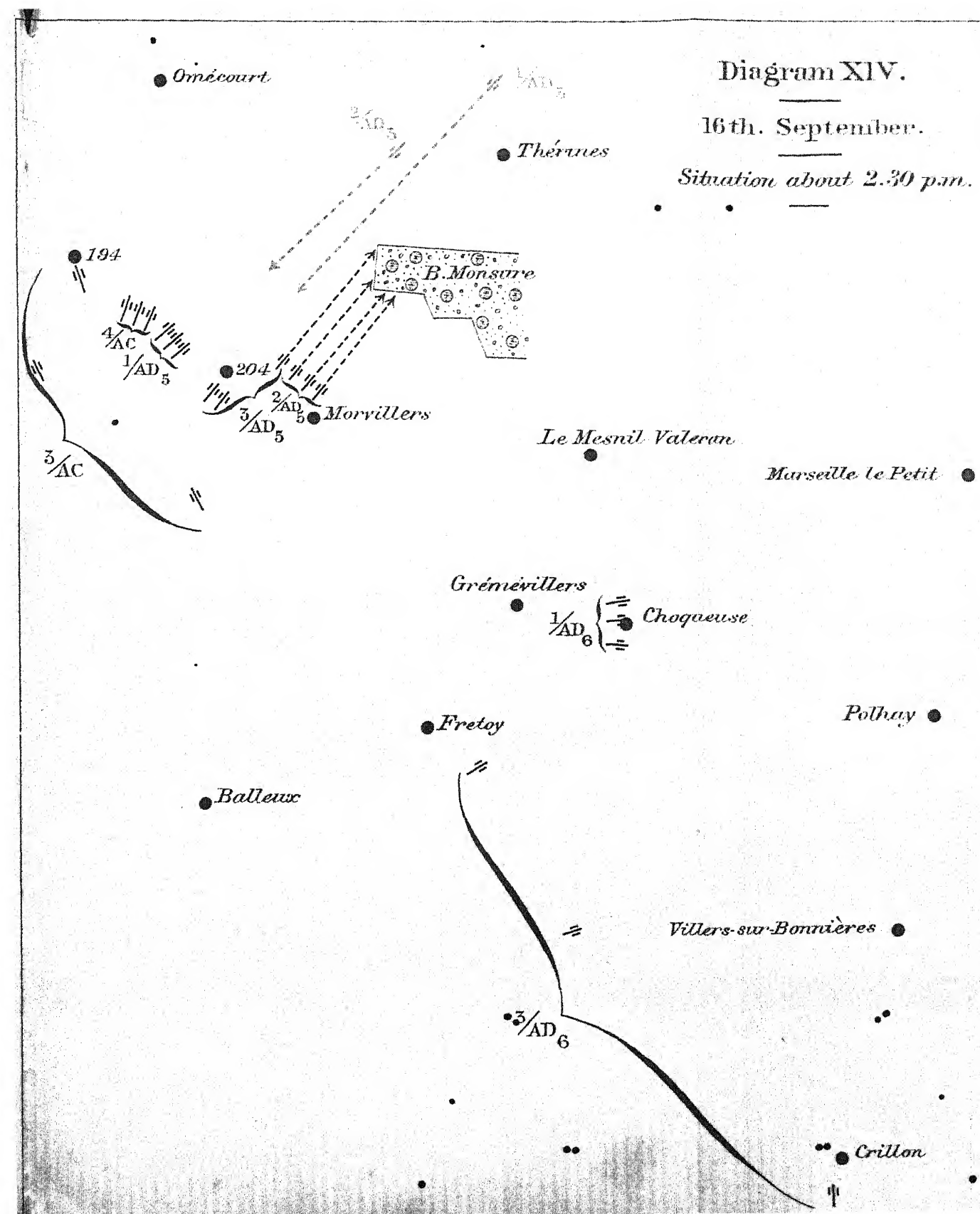
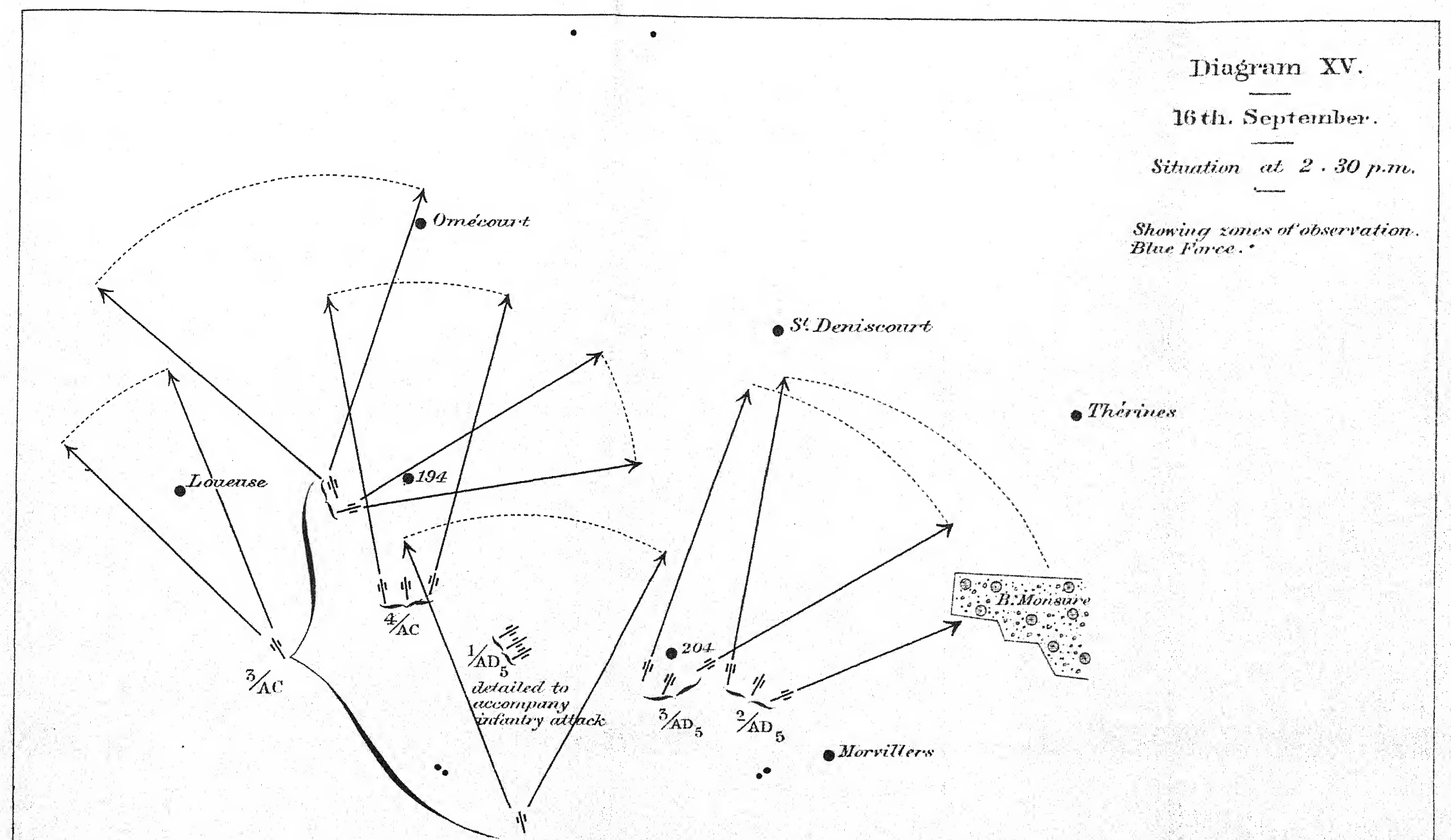


Diagram XV.

16th. September.

Situation at 2.30 p.m.

Showing zones of observation.
Blue Force.



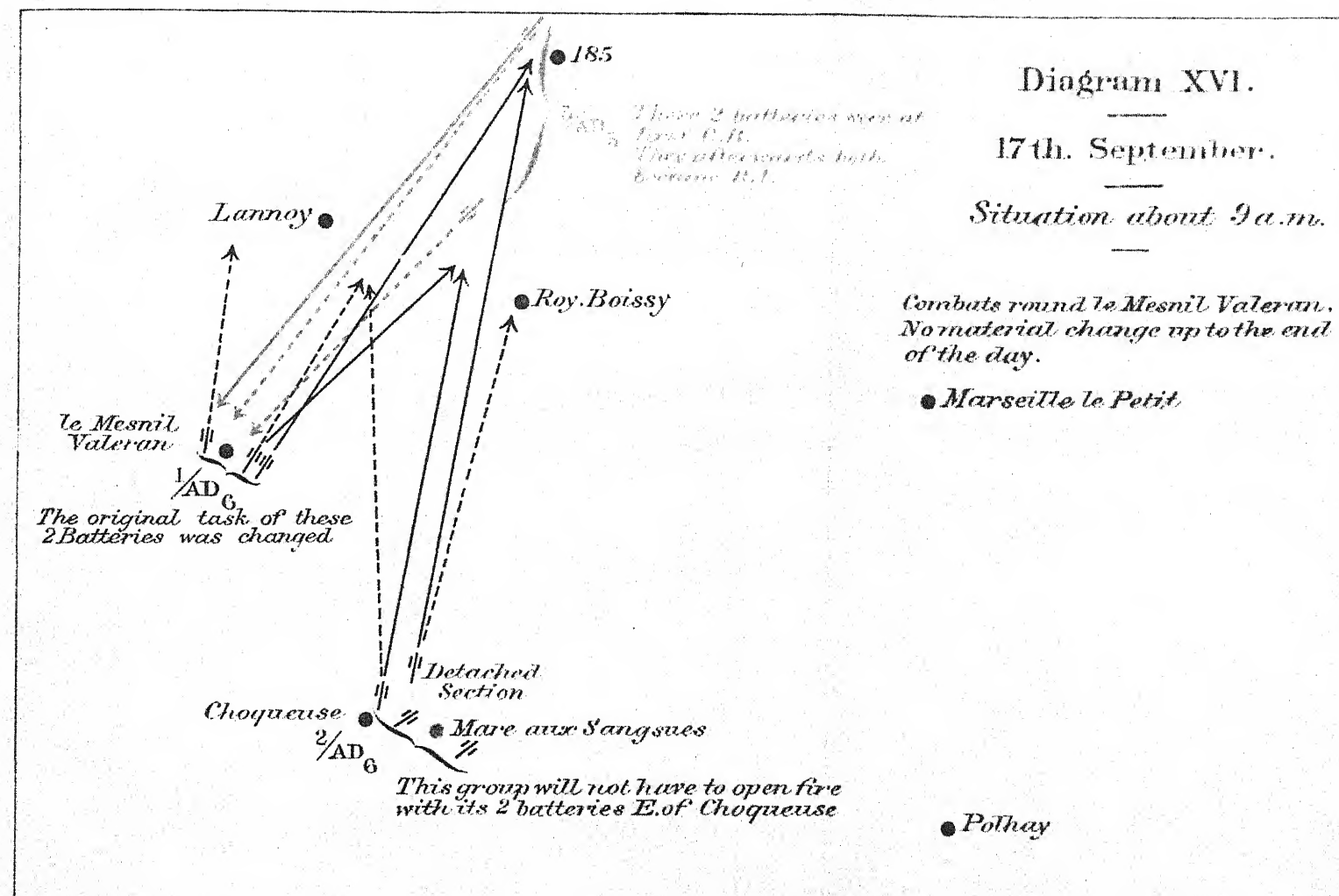
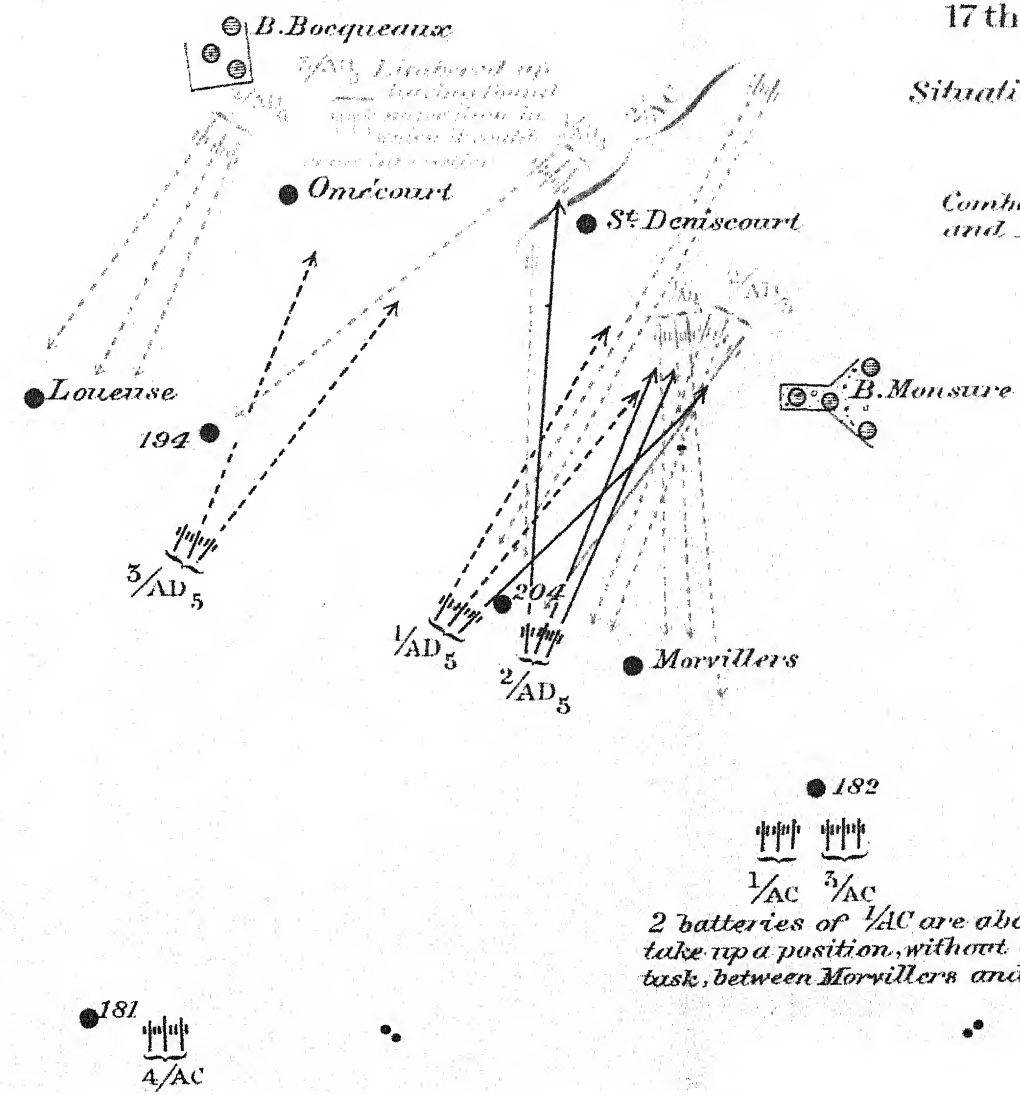


Diagram XVII.

17th. September.

Situation about 8.30 a.m.

Combats round Morvillers and Loueuse



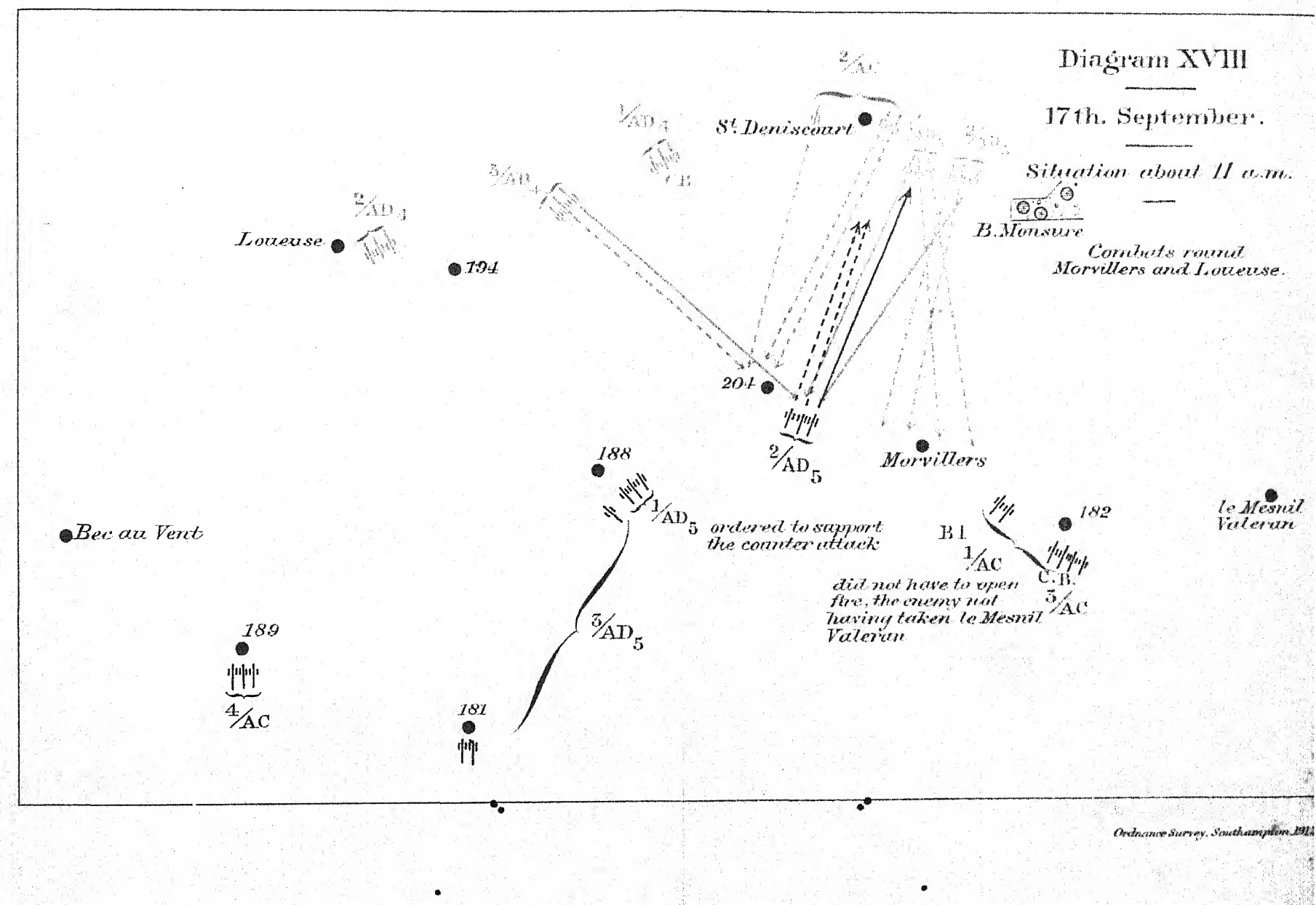


Diagram XIX
 18th. September
 Situation about 7 a.m.

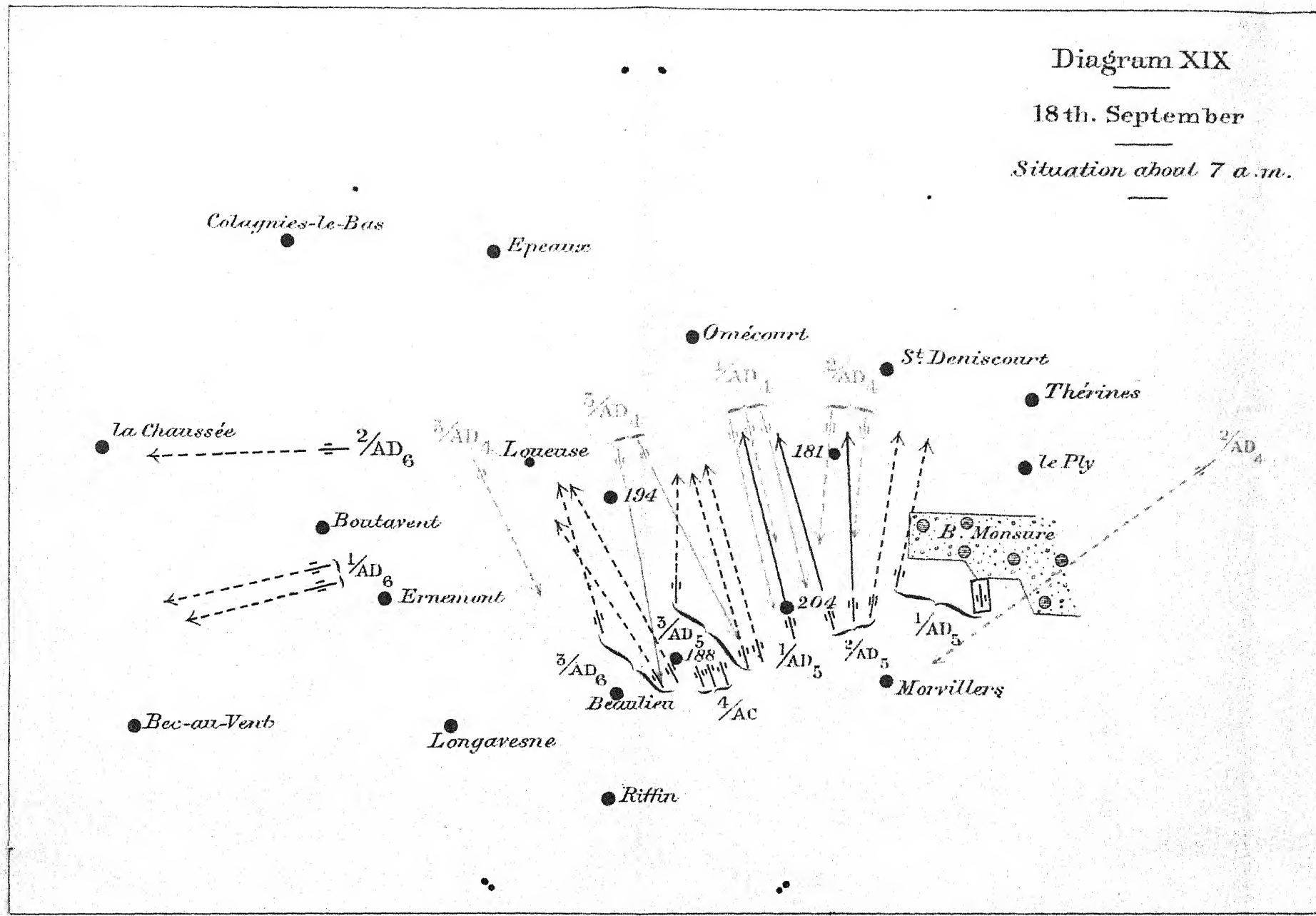


Diagram XX.

18th. September

Situation about 8 a.m.

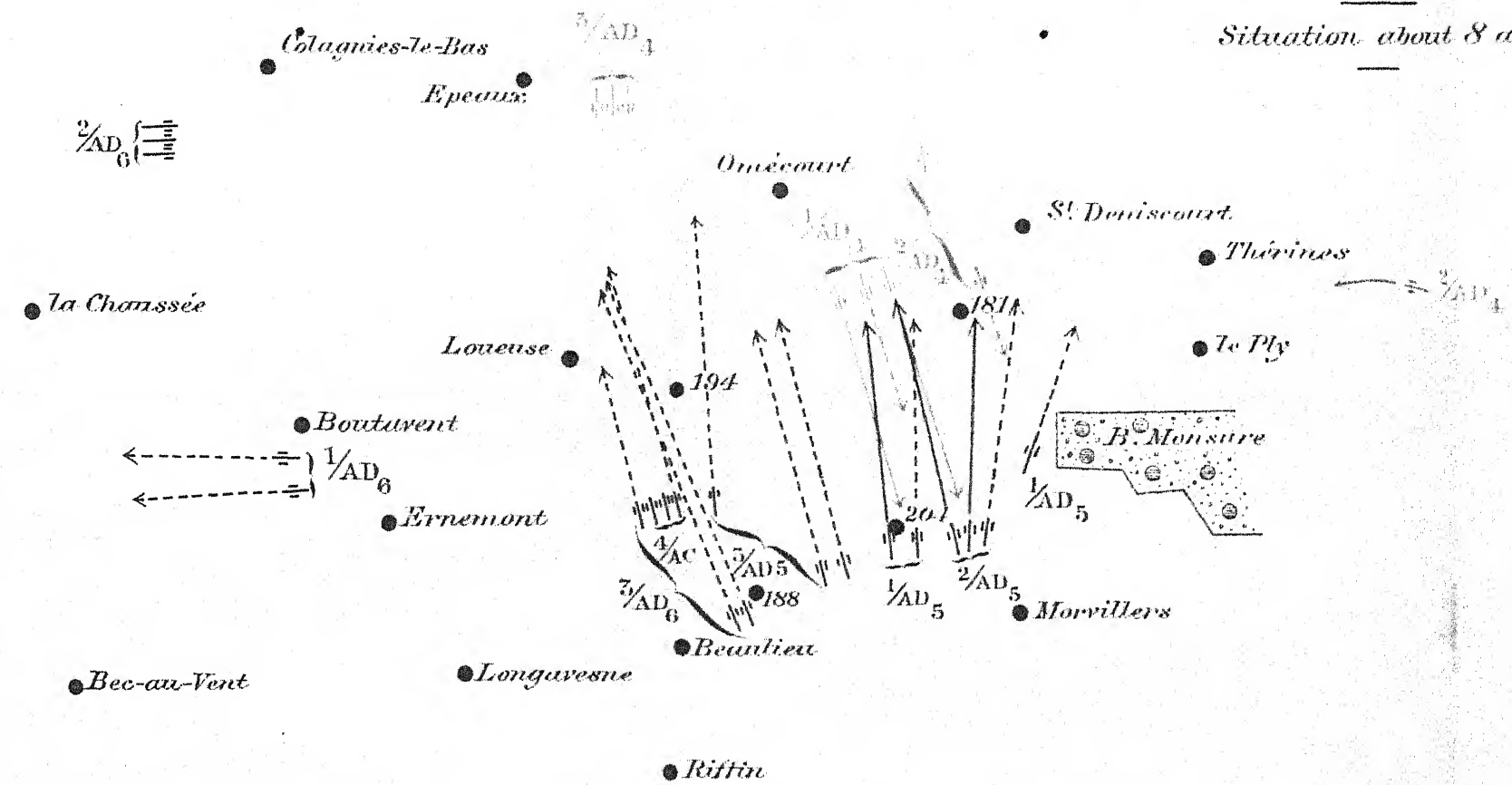


Diagram XXI.

18 th. September.

Situation between 9 and 9.30 a.m.

